

Implementing an Organisational Intervention for Work-related Stress:
an Action Research Study

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Abstract

This thesis describes an action research study assessing the effectiveness of an organisational intervention for work-related stress incorporating participatory principles. The study, set in the call centre business of a UK utilities company, aimed to contribute evidence of the effectiveness of the HSE Management Standards approach in managing work-related stress.

The study developed and utilised a two-stage action research framework that guided the research and intervention design and informed the choice of the research methodology. This approach, comprising macro and micro intervention cycles, collected research data at three intervals over the 12-month timeline. The study deployed mixed methods using process evaluation principles with intervention (n=185) and control groups (n=205). The intervention comprised a stress risk assessment based on the Management Standards, delivered to the intervention group through management training.

The results showed that the intervention did not reduce employee work-related stress or improve their psychological wellbeing. The process evaluation indicated that the intervention failed to translate an initial change in attitudes, values and knowledge into meaningful changes in psychosocial working conditions. Exposure to non-work stressors was found to be three times more influential on psychological wellbeing than work stressors, with social support from managers having a protective influence on both work-related stress and psychological wellbeing.

The study identified the challenges of implementing an organisational intervention for stress in a dynamic, change-affected working environment with high employee turnover, where the inherent nature of the work inhibits the formation of social support networks. Despite the perceived stressful nature of this setting, the study identified that non-work stressors had a predominant influence on psychological wellbeing. The identification of the importance of social support from managers aligns with findings from previous studies, with this study differentiating between personal support and work support, and the importance of a manager's work knowledge, availability and visibility.

Part 1

diagnose

1. identify the nature of a problem
by examination of the symptoms

Chapter 1 - Introduction

On the 16th November 1994 for the first time the UK High Court found an employer liable for the psychological harm that one of its employees had suffered as a result of excessive workload (Walker v Northumberland CC, 1995). As a result, employers were put on notice that their duty to ensure the safety and health of employees now included protecting them from harm caused or exacerbated by exposure to psychosocial factors such as pressure, poor working environments and adverse working relationships. As the information age changed the nature of modern work, so this new threat to psychological wellbeing emerged, possibly as a result of the fast pace of an electronic lifestyle (Marsh, 2013), from a dependency on communication and information technology (Enayati, 2013), or from increased efficiency and speed of social communications (Harlow, 2008). In response, policymakers began to focus attention on providing employers with preventative guidance, informed by a large body of academic studies (summarised in Cox, 1993, Mackay et al., 2004) that associated this exposure with a large range of adverse physiological and psychological health effects.

It is a measure of the development of knowledge and understanding that the first guidance issued by the Health and Safety Executive (HSE), the UK's health and safety regulator, in 1988 was aimed more generally at mental health at work (Health and Safety Executive, 1988) with its first formal guidance for work-related stress released in 1995 (Health and Safety Executive, 1995). This was revised (Health and Safety Executive, 2001) to include, for the first time, the Management Standards for Work-related Stress ('Management Standards'), a six category typology of aspects of work that could cause stress in employees. Further revised in 2004 (Health and Safety Executive, 2004) and 2007 (Health and Safety Executive, 2007) this guidance aimed to help employers undertake organisational-level risk assessments for work-related stress, encourage them to engage employees in managing stress, and help employers assess their success in tackling causes of stress. Despite some evidence of the effectiveness of the Management Standards approach at a national level (Mackay et al., 2012, Mackay and Palferman, 2014) supported by informal evidence from practitioner case studies (Health and

Safety Executive, 2013) there is little research-based evidence that positive organisational outcomes can be attributed to the Management Standards approach (Mackay et al., 2012).

1.1 Personal Perspective

My doctoral studies have been completed part-time alongside my role as a chartered occupational safety and health practitioner. As the Head of Health and Safety at a UK bank I was first introduced to the management of work-related stress following an enforcing authority investigation into stress. This coincided with the first publication of the HSE's Management Standards in 2004, and hence there were few published examples of interventions or approaches to manage stress in the workplace. To meet the enforcing authority's requirements I implemented a stress management plan based on the Management Standards approach, that resulted in a large reduction in stress-related sickness absence (Hamilton, 2007) and was cited as a best practice example by the HSE in subsequent versions of the Management Standards guidance (Health and Safety Executive, 2007). This practitioner experience inspired my academic interest in work-related stress, and in particular the Management Standards. In 2008 I completed a Masters degree in Health and Safety Law, with my final dissertation investigating the law regarding work-related stress (Hamilton, 2009). Together my practitioner experience and research work have inspired this study.

As a first time action researcher I have had much to learn about what constitutes a good, effective action research study and how this translates into a doctoral thesis. Zuber-Skerritt and Perry's (2002) conceptual model of an action research thesis was particularly influential in guiding my changing role as an independent researcher during the thesis planning and writing stages, and as a collaborative researcher during the action fieldwork stage. This was supplemented by Egan et al's (2009) checklist for reporting intervention implementation which helped guide my writing up. It was particularly rewarding therefore that a paper on my research study was awarded the Tony Beasley Award for the Outstanding Doctoral Paper at the 2015 British Academy of Management (BAM) Doctoral Symposium, and that the action research framework I developed to guide this study won the Best Developmental Paper Award for

Organizational Psychology at the BAM 2015 conference. My work on action research will also feature in a book chapter I have co-authored on the use of action research to implement, investigate and evaluate interventions in applied health research (Hamilton and Varey, In Press)

1.2 Study Overview

This study sought to determine the effectiveness of an organisational intervention in managing work-related stress. The intervention comprised a stress risk assessment (SRA) that managers and their team members used to identify and manage possible causes of stress. This was delivered to managers through a programme of management training. The SRA, based on the Management Standards, adopted a cyclical approach to risk management, with managers and teams reviewing it periodically through the study. The study therefore aimed to generate data to evaluate the effectiveness of this approach in reducing work-related stress.

With this aim in mind, a number of initial design considerations could be considered. Generating longitudinal data would help evaluate the effect of the intervention over time, with a mix of quantitative and qualitative data collection methods incorporating process evaluation techniques to provide comprehensive insight into the intervention's outcome and process. Undertaking the study in a host organisation of sufficient size and scale would facilitate use of intervention and control groups in a social setting, giving the study features of a quasi-experimental design such that a comparison of the effects of intervention exposure could be made, with group participants not being assigned randomly (Bryman, 2008).

With these considerations, an action research approach would provide an ideal research setting for the consideration of the practical and theoretical aspects of the study, and help position and clarify my role as the researcher in relation to the intervention process, the research data and the emergent theory. Taking this into account my objectives for the study were defined as:

1. To produce reliable evidence as to the effect of an organisational intervention for work-related stress on employee health and wellbeing through analysis of longitudinal data from control and intervention groups;

2. To examine the manager and employee experiences of participation in decision making through analysis of their involvement in the intervention;
3. To identify further development or adaptation needs for the intervention from the analysis of both the quantitative and qualitative data generated in the study;
4. To contribute to the evidence on the effectiveness of the HSE's Management Standards approach to work-related stress through the reporting and dissemination of the study's findings.

1.3 Study Setting

The study was based in the call centre business of a UK water utilities company, Combined Water Group (CWG, pseudonym). CWG employed 3,200 employees, with 800 working in its call centre and administration business known as ServiceZone (pseudonym). ServiceZone was run as an autonomous business unit within CWG, located in separate premises and having its own leadership team and support functions including human resources (HR), IT and finance. ServiceZone's operational activities were split between frontline telephone based customer services, known as the Contact Centre, and financial and account management activities which are also predominantly telephone based, known as Collections. Frontline employees in both areas were titled Customer Relationship Managers (CRMs) and had job roles that managers saw as being largely generic. Teams of 8-10 CRMs reported to a Team Manager (TM), who in turn reported to a Team Leader (TL). A typical structure chart for ServiceZone is illustrated in figure 1.

1.

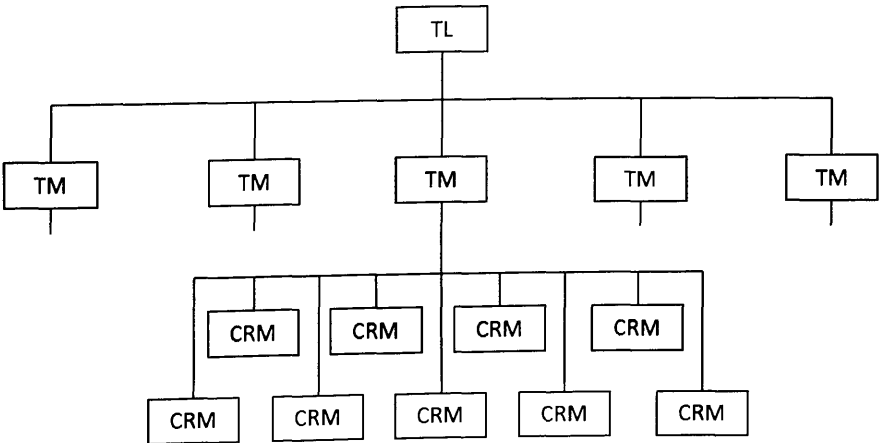


Figure 1 – ServiceZone Organisational Structure

Employee sickness absence was reported to the CWG and ServiceZone leadership teams on a monthly basis, with absence broken down into a number of categories. Stress-related absence was categorised as ‘depression/stress’. Sickness absence was self-reported and supported with a GP issued Fit Note after five days of absence. Analysis of sickness absence at the start of the study showed that across CWG stress-related absence was losing the organisation an average of 1.2 days per employee in the 12 months up to October 2013, costing the organisation 0.5% of its available working time. For ServiceZone the impact of stress-related absence was significantly higher, with the call centre business losing an average of 3.1 days per employee, costing 1.4% of working time available (Company Report, 2013). This loss of working time was estimated to be costing CWG approximately £600,000 in lost wages through stress-related illness.

Despite the significant cost to CWG, and particularly to ServiceZone, the organisation had not previously attempted to implement an organisational intervention to manage employee work-related stress. Employees had access to individual interventions including confidential counselling and the CWG Occupational Health service, however these fulfilled the role of tertiary interventions, being targeted at the rehabilitation and recovery from ill health (Cooper and Cartwright, 1997). Working with the ServiceZone leadership team, CWG’s Occupational Health team suggested a more preventative approach be adopted for managing work-related stress. I became aware of this through my professional relationship with the CWG Occupational Health Manager and proposed that an organisational intervention for stress in ServiceZone could be implemented and evaluated as part of my PhD study. As such, the study was undertaken entirely as a research project for my PhD not as a consultancy project. I received no payment from ServiceZone or CWG.

1.4 Adverse Weather Event

In August 2014 the remnants of Hurricane Bertha swept over the UK resulting in high winds and heavy rainfall that caused significant flooding in large parts of the UK (The Met Office, 2015). The effect across CWG with ServiceZone at the front line of handling customer reports

was dramatic, as customers reported property flooding, waste contamination, and service failures. Call volumes increased around 400% as the organisation was put into crisis mode. This occurred half way through the study timeline and had a disruptive effect on the intervention implementation and data collection. Despite this, the study's process evaluation approach allowed the additional data generated by the experiences and effect of this event to be captured and factored in to the overall evaluation of the intervention.

1.5 Epistemological and Ontological Position

This study attempted to assess the effectiveness of an organisational intervention in a real life social setting. At the outset, it was clear to me that research of this kind raised interesting epistemological and ontological questions about how a researcher can generate data to best understand the effect of an intervention. Approaching the study I not only wanted to know whether the intervention had an effect on the health of the call centre employees within my sample, but also how any effect was generated.

Determining the effect of an intervention might at first sight appear to suit rational scientific methods aligned to a modernist, positivist approach. Such an approach sees knowledge gained as being empirical, measurable, consistent, verifiable and controlled. Importantly from a social science perspective this knowledge is also seen as context-free, neutral from values, and independent from the role of the researcher (Alderson, 1998, Parkin, 2009). Indeed a predominance of intervention studies have deployed quantitative methodology to investigate interventions from this positivist perspective (Needleman and Needleman, 1996). A contrasting position to modernism is not to see knowledge as being a single truth that is there to be discovered; rather it is constructed from people's accounts of the world built from their own experiences. Socially constructed, post-modernist theories result in contextual, subjective, complex knowledge that is qualitatively derived from the research setting and intrinsically involves the researcher (Alderson, 1998, Hodgkin, 1996, Parkin, 2009). For a researcher faced with investigating the effect of an organisational intervention, there exists a tension between needing to generate empirical evidence of its effect and needing to understand the lived

experiences of those exposed to the intervention. It is important that this is resolved given that ‘many important intervention research questions cannot be answered satisfactorily by measuring and counting, no matter how precise and intricate the data collection and analysis’ (Needleman and Needleman, 1996, p329). Possible explanations for quantitative findings together with new interpretations and lines of inquiry can be derived from a qualitative understanding of social meanings and social relationships in the study setting (Baril-Gringas et al., 2012), suggesting therefore a combination of quantitative and qualitative methods. Reconciling these different views of reality required me to be clear that quantitative data would provide an objective view of the intervention outcome, with a qualitative approach providing a socially constructed view of its implementation and the wider context of the research setting. Combining the two through a mixed methods approach, therefore, would allow me to develop a more holistic view of the intervention and its implementation.

1.6 Theoretical Model

The study considered a simple theoretical model relating to the effect of an organisational intervention for work-related stress built around participatory principles. The study hypothesised that implementing such an intervention for the call centre employees would reduce work-related stress (hypothesis 1) and improve psychological wellbeing (hypothesis 2). By adopting a mixed methods approach and process evaluation principles, the study hoped to determine whether the success or failure of the intervention was as a result of its theoretical design and/or its implementation. The use of qualitative methods would allow the participatory principles of the intervention to be investigated, particularly in the context of an intervention for work-related stress. In other words, how does participation in decision making affect employees’ ability to cope with the pressure of their work? (research question 1).

In the course of the discussions with the ServiceZone leadership team during the study’s design stage, they expressed a view that, for many of their employees, non-work stressors had greater influence on psychological wellbeing than work stressors. As such the study hypothesised that exposure to non-work stressors would adversely impact on psychological wellbeing (hypothesis

3). Finally the study looked to examine the connection between work-related stress and psychological wellbeing, hypothesising that higher levels of work-related stress would negatively affect psychological wellbeing (hypothesis 4).

1.7 Study Structure

Having introduced this study in Chapter 1, the relevant literature is reviewed in Chapter 2. The principles of the study's action research approach are discussed in Chapter 3, with the intervention design and research design outlined in chapters 4 and 5 respectively. The data analysis techniques used in the study are described in Chapter 6 with the study's quantitative and qualitative results are presented in Chapter 7. The study's findings are then discussed in Chapter 8 where the intervention's success or failure is considered other theoretical implications. Chapter 9 concludes the thesis with a summary of the study's findings and conceptual conclusions, a consideration of its contribution to knowledge, a critique of the research and an agenda for future research.

1.8 Conventions

There is a variety of terminology used in the literature relating to various aspects of this study so the following clarifications are made regarding key terms.

Regarding a person's psychological status, this is variously described as psychological wellbeing, psychiatric distress, and psychological distress. For consistency this study uses the term psychological wellbeing unless otherwise referred to in direct quotations.

Regarding social actors in the workplace, those responsible for managing or supervising others are variously described as managers, line managers, supervisors or coordinators, whilst those undertaking workplace tasks are described as workers, employees or operatives. For consistency this study uses the terms managers and employees to define these different roles.

Chapter 2 - Literature Review

This chapter begins by examining the phenomena of stress, particularly within the context of work, and considers a number of models that consider how work-related stress can impact on an individual's health. The development of this understanding into a taxonomy of stressors that provides the basis for a risk management approach to stress is then considered. Given the participatory nature of the proposed intervention, the literature on the effect of participation in decision making was reviewed to help inform its design and to provide possible theoretical explanations as to the effect of the intervention. The study's call centre setting is also considered to establish the defining features of such a setting that are relevant to a study on stressors and their effect on health.

A search of peer-reviewed papers was undertaken using Business Source Premier, Academic Search Complete, PsycINFO and PsycARTICLES academic databases. Keywords were chosen in each of the theoretical areas considered in the study, for example the search for papers relating to participation in decision making included terms such as worker involvement, worker participation, and employee participation to ensure the search was not constrained by definitional differences. Searches were then refined using Boolean searches combining keywords. For instance family-work conflict and stress refined the search to focus on that specific aspect of the literature. Supplementing the search was a review of the reference lists of key papers in each area.

2.1 Health Impacts of Work-related Stress

There is an extensive corpus examining the ill-health effects of work-related stress that is beyond the scope of this study, however closer examination of this body of work draws out aspects of how work-related stress affects employees and conversely what mechanisms might protect them from suffering harm to their health. As such the literature helps identify the possible mechanisms involved in the SRA being evaluated in this study.

To further develop an understanding of these possible mechanisms it is important to have an appreciation of the adverse impact on health that work-related stress can have. The evidence of

a causal relationship between work-related stress and harm to health comes from a range of biological studies that examine the various processes that control the pathway between exposure and harm, and from empirical studies examining exposure levels and health outcomes of employees in-situ. Studies of biological pathways for stress provide strong evidence of an adverse impact on a number of health outcomes, including metabolic syndromes and insulin resistance (Brunner, 2002), neuroendocrine changes and autonomic nervous function (O'Connor et al., 2000), inflammatory and immune responses (Cohen et al., 1991, Cohen et al., 1998) and homeostatic cell equilibrium (Sterling and Eyer, 1988). However these are often undertaken in laboratory conditions that fail to simulate real life conditions. As such the epidemiological studies contribute to this picture with evidence of an adverse impact on general indicators of mental and physical health (de Jonge et al., 2001), blood pressure (Fox et al., 1993), and immune functioning (Sapolsky, 2003).

In order to explain why aspects of work can be stressful and therefore have an adverse impact on health outcomes, a number of theories have been proposed, initially centring on two approaches, the *engineering approach* and the *physiological approach*. The engineering approach presented stress as an adverse characteristic of the workplace, independent of other factors and as such being an environmental cause of ill-health involving objective characteristics of the working environment (Spielberger, 1976). The physiological approach differed in that it saw stress as the physiological response to working in a threatening environment and as such positions stress as a dependent variable (Selye, 1956). Both approaches have however been subject to much criticism, that they do not adequately account for individual differences in response (Cox, 1978), that the engineering approach takes no account of behavioural influence or risk perception (Douglas, 1992), or in the case of the physiological approach that there is a large variance in responses to apparently noxious environmental factors (Mason, 1971). As such contemporary stress theories have adopted a *psychological approach* that considers stress as a dynamic interaction between the individual and their working environment with a consensus forming around this approach to defining stress and understanding its pathways (Cox, 1993).

Within the psychological approach are two variations that have been subject to extensive study and development of theories. The *interactional* theory considers the interaction between an individual and their working environment, with two particular theories dominant; the Person-Environment Fit theory, and the Job Demands-Control theory. The Person-Environment Fit theory suggests that stress occurs when excessive job demands disrupt the normal equilibrium state between the individual and the environment they work in (French et al., 1982). The Job Demands-Control model (Karasek, 1979) looks more specifically at the interaction between jobs that involve high levels of demands and low levels of decision latitude suggesting that the combination of these states results in high levels of job strain for the employee. Both models have been subject to criticism, in the case of the Person-Environment Fit theory that it is unfocussed (Chemers et al., 1985) and as such leads to difficulties in fit and measurement (Edwards and Cooper, 1990). Similarly the Job Demands-Control model has been criticised for its narrow approach (Peter and Siegrist, 1997) with questions surrounding the extent of the interaction suggested between its two constructs (Stansfield et al., 2000). Despite the criticism the Job-Demands Control model in particular has enjoyed significant influence in the subsequent research and policy development.

Alongside the interactional models are a number of *transactional* models of stress that focus on an individual's cognitive process and emotional response to the environmental stressors. For instance theories of appraisal and coping consider the conscious appraisal by individuals of the threats to their wellbeing, adjusting their coping mechanisms accordingly and then making further appraisals in an ongoing process (Cox and Mackay, 1981). One of the most influential transactional models is Siegrist's Effort-Reward Imbalance model (Siegrist, 1996) which proposes that stress develops as a result of an imbalance between the effort committed by an employee and the resulting reward that they receive. Whilst a number of studies have found evidence to support transactional models (see de Jonge et al., 2000, Siegrist, 1998), others have found a limited effect (Stansfield et al., 2000), or no effect at all (van Vegchel et al., 2001). Whilst transactional theories appear to complement interactional models (Cox et al., 2000), their strength lies in recognising the dynamic connection between an employee and their working

environment and how they experience stress within this relationship. This enables transactional models to account for subjective experiences based on an individual's own personal factors and perception. This variation in individual transactional processing helps explain why individual employees have different thresholds for coping with stressful work or working environments.

Placing stress in a transactional context has helped bring clarity to the definition of stress as a term. Starting from an interactional position Lazarus (1966) conceptualised stress as the interaction between a person and their environment featuring an initial stimulus, intervening variables and resulting psychological response. The influence of transactional models has further defined stress as a 'mediating construct rather than [simply] being an outcome measure of psychological health' (Michie and Williams, 2003, p3), which has a direct effect on physiological health through perceived psychological challenges or threats (Brunner, 2002). Within the context of the workplace the International Labour Organization defined work-related stress as 'the harmful physical and emotional response that occurs when the requirements of the job do not match the capabilities, resource or needs of the employee' (Gabriel and Liimatainen, 2000, p11).

2.3 Social Support as a Moderator of Work-related Stress

As the understanding of stress interactions developed, a number of authors suggested that social support provided one of the most likely means of mediating the stress-strain relationship (Caplan et al., 1975, Cobb, 1976, French et al., 1974). Several early studies appeared to confirm that social support in the workplace from supervisors and co-workers positively correlated to better health outcomes (Cobb, 1976, Pinneau, 1976), and was thought to mediate the effect of social support on psychosocial stressors. An early model that conceptualised the possible direct and buffering effects of social support provided a framework for examining a number of hypotheses regarding possible relationships (LaRocco et al., 1980) and provided evidence that co-worker support offered twice as many buffering effects as supervisor and home support. It concluded that it was important to examine which stress-strain relationships were susceptible to the main effects of social support, which were unaffected, and those that were most

susceptible to buffering effects. Further it was suggested that stress-strain indicators were affected more by the direct effect social support than by buffering, with health outcomes affected more by buffering than by any direct effect. This non-symmetrical interaction was supported by Karasek et al (1982) who returned to the Job Demands–Control model to suggest that social support might act to reduce the strength of association between job characteristics such as demands and control and resulting strain. A subsequent large scale representative study of Swedish employees (n=13,779) (Johnson and Hall, 1988) provided strong evidence of the effect of high levels of social support on the health outcomes of employees with high demand, low control jobs, with the study authors concluding that ‘the addition of social support expands the demand-control formulation from an emphasis on the individual connection between a person and their job into the domain of collective relationships between people’ (p1341). Examining this further, Viswesvaran et al (1999) undertook a meta-analysis of 68 studies to examine the relationship between social support, work stressors and strain. Their analysis suggested the co-existence of both the direct and buffering effects models, with social support appearing to act in 3 ways; its primary method being to directly reduce strain, with secondary role to reduce the strength of stressors employees are exposed to and to reduce the effects of stressors on strains (Viswesvaran et al., 1999).

With strong evidence of the effect of social support, a number of studies have attempted to evaluate the effectiveness of component parts of social support, particularly the nature of communication between employees and their supervisors and co-workers. For instance, McIntosh (1991) identified that the amount, adequacy and level of support was an important consideration, suggesting a non-linear relationship where the most effective combination was moderate amounts of support combining with moderate level and adequacy . This is consistent with Warr’s vitamins analogy that proposes environmental features do not exert a constant effect in terms of their effect on happiness (Warr, 1994, Warr, 2009). These are conceptualised as features that have an additional decrement if exposure is increased (as with vitamins A and D) or those that have a constant effect when increased (as with vitamins C and E). Two of these features, contact with others and supportive supervision, are closely related to social support

and correspond with each of the relationships. High levels of social contact having additional detriment, but high levels of supportive supervision having little additional benefit or detriment and as such having a constant effect.

2.2 The Management Standards for Work-related Stress

Alongside the developing theoretical understanding of stress as a construct, policymakers began to consider the need for guidance for employers on stress and its potential to impact on health. The HSE commissioned a review of the literature to examine the nature of work-related stress, examine how it affects health and consider how it can be managed effectively (Cox, 1993). Building on Cox and Mackay’s transactional model (1981) the review identified a strong consensus on the definition of stress as ‘a psychological state involving aspects of cognition and emotion’ (Cox, 1993, p13). The review proposed an initial nine factor taxonomy to categorise stressful characteristics of work which map on to two broad areas; *work context* (organisational function, role, career development decision latitude, inter-personal relationships, and home-work interface; and *work content* (task design, workload/pace, and work schedule). This review provided the platform for further work by the HSE to develop clear, agreed standards of management practice which would form the basis of guidance for employers on how to effectively manage the presence of workplace stressors. This standards-based approach resulted in the development of six stressor areas (Mackay et al., 2004):

Demands	How well employees can cope with the demands of their work, including issues such as workload, work patterns and the working environment
Control	How much say, influence, and control a person has in the way they do their work
Support	The level of support provided by managers and colleagues, including encouragement, sponsorship, and availability of resources

Role	How well an employee understands their role and responsibilities, ensuring roles are not conflicting
Relationships	Individuals not being subject to unreasonable behaviours such as bullying, harassment and coercion
Change	How well changes in work are managed and communicated, and that individuals are effectively engaged in the change process.

Supporting these standards is a simplified definition of stress that builds on the psychological-transactional models:

‘Stress is the adverse reaction people have to excessive pressures or other types of demands placed on them’. (Health and Safety Executive, 2004, p1)

In addition to developing the Management Standards approach, Mackay et al considered the incorporation of the six standards into a risk management approach, emphasising the need for employee involvement and participation, taking a ‘bottom up approach to capture local concerns and context’ (Mackay et al., 2004, p99). This mirrors the adoption of participatory principles in approaches promoted in other European countries (Nielsen et al., 2010a), such as Spain’s Prevenlab approach (Peiró, 2000) and Germany’s Health Circles method (Aust and Ducki, 2004) confirming that employee participation should be a core component of intervention design (Giga et al., 2003a, Giga et al., 2003b, Nielsen and Randall, 2012).

Following its launch, Kompier (2004) critically reviewed the Management Standards approach, identifying strengths in its applied use of risk assessment and management principles to the psychosocial work environment. However, he felt that some of the standards lacked clarity, that there was insufficient guidance on intervention design, and was concerned about the Indicator Tool’s use of thresholds and the lack of evidence of its psychometric properties¹. Other

¹ Kompier’s concerns were addressed by subsequent iterations of the Management Standards approach published by the HSE (e.g. Health and Safety Executive, 2007) that included greater guidance on intervention design and case study examples. The Indicator Tool thresholds were dropped soon after launch, and Edwards et al (2008) subsequently reported a large-scale psychometric analysis of the tool.

experiences of implementing the Management Standards approach have identified the importance of senior management commitment to the process, the role of project steering groups, and the value of the Indicator Tool in providing baseline data, with time and resource commitment, lack of information, and ongoing organisational change acting as barriers to implementation (Broughton et al., 2009, Tyers et al., 2009). Cox et al's (2009) Delphi study examining the potential wider application of the Management Standards approach to other workplace health problems identified that the approach was simple, comprehensive, straight forward to use, inexpensive, easy to access, and generally reflected good management principles. However it found that it could be resource intensive, lacked evidence of its effectiveness, failed to acknowledge the work-non-work relationship, and did not capture wider organisational determinants such as culture, fairness or communication. Reviewing the HSE's own experience of the national implementation of the Management Standards, Mellor et al (2011) found evidence of enablers and barriers at three levels. Regarding organisational context, the stepwise risk management approach might not work in rapidly changing organisations where the process could not respond with sufficient speed. Regarding process, whilst resource and time commitment was needed, participatory involvement drew on the collective knowledge of the team. Finally, regarding content, they found the Management Standards could be too prescriptive for some organisations, particularly small and medium enterprises, however the approach could be implemented flexibly to reflect local issues.

2.4 Employee Participation in Decision Making

Theories on the effect of employee participation in decision making emerged from the conflict between early Classical theories of labour force management that espoused a prescriptive, methodological and bureaucratic approach to task allocation (e.g. Fayol, 1949, Gilbreth and Gilbreth, 1914, Taylor, 1911, Weber, 1948), and the more progressive Human Relations approach that emerged from Mayo's Hawthorne experiments which recognised employees' complex social and personal needs (e.g. Barnard, 1938, Maslow, 1943, Mayo, 1933). The more progressive approach recognised that as well as financial needs, employees have psychological

needs and desired more flexibility and discretion over their work (Burnes, 2009). This was manifested in the Job Design approach, where these wider needs were considered in the design of employee's jobs, resulting in jobs that included more task variety (Guest, 1957), increased levels of employee influence (Herzberg, 1968) and formal recognition of the inter-connected social systems present in the workplace (Davis, 1979).

Participation in decision making can be positioned within a wider approach to employee empowerment which, in its modern incarnation, places an emphasis on employee involvement without challenging management prerogative, with the aim of 'unleashing the talents of individuals' (Wilkinson, 1998, p3). This is characterised by a reduced emphasis on compliance and hierarchy, with greater emphasis being placed on building strong team relationships and trust to improve employee commitment and utilisation of their expertise (Hyman and Mason, 1995). This form of empowerment is exhibited in the total quality management approach to process efficiency, with continuous improvement undertaken by all those involved in the process and therefore being effectively driven 'bottom-up' (Hill, 1991). In contrast to individualistic forms of empowerment that provide individual strategies for personal development, participation in decision making can be positioned within a collective approach to empowerment, where power is redistributed to those that do not normally have it (Cunningham et al., 1996).

Considering broader influences, two of the five cultural dimensions identified in Hofstede's (1980) value-based framework help determine the scope and extent of employee participation, principally the *power distance* between an organisation's leaders and its employees, and its position on an *individualism-collectivism* continuum. High power distance, where management decisions are made by a few at the top of the organisational hierarchy, results in inequality and an avoidance of delegation, with low power distances providing everyone with equal rights and the opportunity to contribute to decision making. (Sagie and Koslowsky, 2000). The level of power distance has been found to relate to a manager's theory X/Y orientation, where theory X managers deploying a directive, controlling style to manager staff they believe are only

motivated by lower order needs such as reward and discipline avoidance. In contrast theory Y managers provide employees with opportunities for self-direction and self-control in the belief that they are intrinsically motivated to undertake meaningful work and be involved in decision making (McGregor, 1960). As such theory Y managers have been found to have a higher propensity for involving employees in decision making (Russ, 2011), offsetting any perceived loss of power against increased level of influence with employees (Parnell and Crandall, 2003). Similarly a high collectivism emphasises collective membership of a community where collective goals are prioritised over individual goals. In contrast high individualism promotes self-interest and a focus on achieving individual goals. (Sagie and Aycan, 2003).

Participation is a widely discussed area with little agreement on definition (Hollander and Offermann, 1990), encompassing issues relating to employee involvement (Miller and Monge, 1986), industrial democracy (Holter, 1965), employee influence (Mitchell, 1973), and joint decision making (Locke et al., 1986). This study draws on the more frequently used (e.g. Cotton et al., 1988, Sagie, 1997, Vroom, 1964) definition of participation in decision making as being ‘conceptualised as a process of joint decision making by two influential parties, not necessarily of equal hierarchical ranks, in which decisions have future effects on those making them’ (Cassar, 1999, p58). A common theme of studies examining participation has been the effect it has on job satisfaction and employee productivity. Whilst evidence has been mixed, two dominant theories have been linked to each of these outcomes (Erez and Arad, 1986, Miller and Monge, 1986). The cognitive model suggests that employee participation increases the flow of information and knowledge around the organisation, specifically between managers and employees. This increases the access to relevant knowledge and skills, which increased the likelihood of better quality decisions. This in turn leads to a higher level of performance. Given that higher performance meets employees’ desired outcomes, employees are motivated to work harder still, leading to even higher levels of performance (Black and Gregersen, 1997). The affective model considers employees’ desire to feel valued in the workplace and as such increased levels of participation in decision making allows them greater influence on decisions and the corresponding outcomes. If these outcomes are valued by the employees then they will

be satisfied with their level of involvement (Black and Gregersen, 1997). A number of studies have found varying levels of evidence in support of these models (e.g. Cotton et al., 1988, Locke and Schweiger, 1979, Miller and Monge, 1986, Scully et al., 1995, Wagner, 1994) and their effect on job performance (Driscoll, 1978, Han et al., 2010, Scott-Ladd and Marshall, 2004, Scott-Ladd et al., 2006) and psychological wellbeing (DeCarlo and Gruenfeld, 1989, Jackson, 1983, Morris and Koch, 1979, Slate et al., 2001, Slate et al., 2003). Much of this research has looked at the characteristics of the participation process and the environmental factors within which it has been found to be effective. Cotton et al (1988) identified that participation can be characterised by the time span, level of formality, direct nature and extent of access employees are given. Conversely the mechanism of how participation works has been less well researched. The affective model was investigated by Schuler (1980) who found it was not the process of participation per se that improved satisfaction, but that it improved employee expectations as the effort-performance relationship became clear and as such employees better understood which behaviours would more likely to be rewarded (Schuler, 1980, Smith and Brannick, 1990). Early management theory has examined the effect of leadership style on the participation process. In particular the need for managers to take a situational view when assessing the level of participation that would be most effective, with seven factors guiding this; decision significance, likely employee commitment, manager expertise, employee expertise, group cohesiveness, and group support for organisational objectives (Vroom and Jago, 1988, Vroom and Jago, 1995, Vroom, 2000). This extends to employee participation in decisions relating to change initiatives where increased participation reduced resistance to change, improved organisational commitment and increased implementation success (Lines, 2004, Tvedt et al., 2009). Conversely the role of managers can have a detrimental effect on participation if the process is perceived to be open to management coercion or if peers see participants as collaborators (Baloff and Doherty, 1989). Similarly the involvement of managers in task-level decisions can be seen as intrusive and a sign of distrust in employees, suggesting that directive leadership styles and participation cannot co-exist (Cassar, 1999).

So far the theories discussed regarding stress and participation in decision making has been context free. It is therefore important we consider these concepts within the specific situational context of this study, the call centre environment.

2.5 The Call Centre Context

The prevalence of call centres increased at the end of the twentieth century as the development of communication technologies and the move to a more service-based economy in developed countries precipitated a need to meet customer service needs (Lewig and Dollard, 2003, Sprigg and Jackson, 2006). Early reviews of the working conditions in call centres did not present them as appealing places to work, variously described as ‘20th century panopticons’ (Ferne and Metcalf, 1998, p2) and ‘assembly lines in the head’ (Taylor and Bain, 1999, p101). Indeed a number of the defining features of call centre environments appear more akin to the Classical Tayloristic manufacturing environment with individualised pay systems, strict division of labour, repetitive work and limited employee discretion of workflow (Deery and Kinnie, 2002). Call centres typically utilise highly structured performance related pay and performance appraisal systems, and employ sophisticated electronic monitoring systems that record employee calls and process efficiency (Holman and Wood, 2002) such that call centre work has been characterised as being ‘closely monitored, tightly controlled and highly routinised’ (Deery and Kinnie, 2002, p4).

Although studies on the psychosocial working environment in call centres are relatively few in number, there is wide agreement on the factors relating to working in call centres that have the potential to influence employee health, productivity and job satisfaction. Holman (2002) found that low levels of job control and task variety, particularly relating to the method of work, were associated with poor levels of wellbeing. Consistent with research in other workplaces, social support from an immediate supervisor was found to have a positive effect on wellbeing (Deery et al., 2002, Holman, 2002). Call centre employees have jobs that have lower levels of control, job variety and task complexity than employees in other sectors which results in poorer wellbeing (Grebner et al., 2003). Call handling is often scripted to structure a ‘predictable,

regulated and routinised response to customer queries and responses' (Taylor and Bain, 1999, p109). However it is the role of performance monitoring that differentiates call centre work from other high-demand low-control work, such as manufacturing, with the asymmetric relationship between time pressure and call quality being particularly challenging for call centre employees (Deery and Kinnie, 2002, Sprigg and Jackson, 2006). The relationship between running an organisation that is cost effective yet aims to provide a high quality of service is contradictory (Hutchinson et al., 2000, Korczynski, 2002) leading some to take the cynical view that employees are sacrificial, with poor wellbeing and high employee turnover being the price paid for high service quality at low cost (Wallace et al., 2000). Where call monitoring is perceived to be intensive and used in support of disciplinary processes it has been associated with poor wellbeing and job satisfaction (Holman et al., 2002, Sprigg and Jackson, 2006). Conversely where monitoring is used as part of a wider organisational approach to improving employee skills and abilities it has a beneficial effect on wellbeing (Holman et al., 2002). Sprigg et al's (2003) review of psychosocial risk factors in call centres found that employee wellbeing was typically lower in call centres where employees were employed on non-permanent contracts, required to follow strict call scripts, and subject to constant performance measurement.

Authors have generally reached for good Job Design principles in suggesting solutions to improving the health of call centre employees; increased job control through both individual and group autonomy (Sprigg et al., 2003, Wegge et al., 2006), job enrichment through the introduction of task variety and greater skill utilisation (Deery et al., 2002, Sprigg et al., 2003, Zapf et al., 2003), use of short-term absence (Deery et al., 2010) and reduced role conflict and ambiguity (Sprigg and Jackson, 2006). However as Dormann and Zijlstra (2003) identify, solutions that focus on creating job complexity, control and variety may not be compatible with call centre jobs that are typically low and semi-skilled, particularly those located in high volume inbound call centres.

2.6 A Theoretical Model for Stress in Call Centres

Building from the study's epistemological and ontological positioning, and the identification of a mixed methods approach as the basis for its design, the study's initial theoretical model was determined through identification of a number of hypotheses for investigation and a principal research question to be answered.

The apparent positive effects of actively involving employees is a theme that runs through the theories relating to stress, is central to participation in decision making, and increases perceptions of job control and task autonomy in call centre work. A risk assessment-based intervention built around participatory principles would therefore appear to have the potential to improve psychosocial working conditions and result in better psychological wellbeing for employees working in a call centre environment.

Hypothesis 1 - A participatory approach to workplace interventions to reduce stress in call centre employees using a stress risk assessment will reduce employee work-related stress.

Hypothesis 2 - A participatory approach to workplace interventions to reduce stress in call centre employees using a stress risk assessment will improve psychological wellbeing.

The attention of the literature has been on the influence of work stressors on psychological wellbeing and consequently the primary, secondary and tertiary interventions that may improve this for employees. However the influence of non-work stressors, particularly given the perception of the ServiceZone leadership team that they are the predominant cause of stress for their employees, requires further investigation.

Hypothesis 3 - Psychological wellbeing will be lower in call centre employees that are exposed to non-work stressors.

The literature is clear that experiencing work related stress adversely affects psychological wellbeing, as such if an intervention is successful in reducing work-related stress then it can be expected that psychological wellbeing will improve as a result of the intervention.

Hypothesis 4 - Reduced work-related stress for call centre employees will improve psychological wellbeing.

A full investigation of these hypotheses requires consideration of the mechanisms involved, particularly the lived experiences of call centre employees, in order to better understand the benefits of involving them in the decision making process. Relating this to participation in decision making and the implementation of an intervention for stress, a research question can be examined alongside these hypotheses

Research Question 1 - In context of an intervention for stress, how does participation in decision making affect employees’ ability to cope with the pressure of their work?

These hypotheses are summarised in the model shown in figure 2 which provides the basis for the study’s research and intervention design.

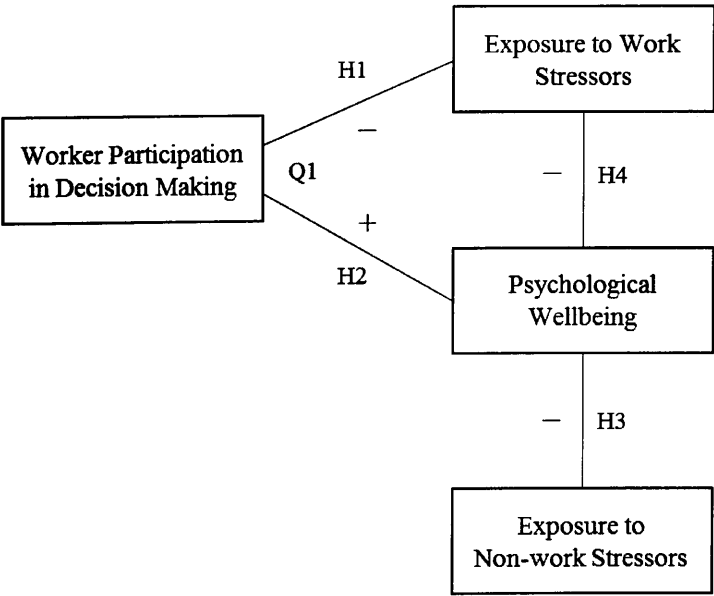


Figure 2 – Initial Theoretical Model for Stress in Call Centres

plan

**1. a detailed proposal for doing
or achieving something**

Chapter 3 - Research Strategy

The proposed theoretical model provided a basis to determine a research strategy to test the hypotheses and investigate the research question. The study context and research setting helped inform the decisions made about the study's overall research paradigm, particularly the relationship between the intervention design, its implementation and the collection of data to evidence and better understand its effect. This chapter sets out the rationale for selecting an action research approach as the basis for investigating the theoretical model. Its description and scientific justification of action research as a basis for generating emergent theory are presented in an abridged version, having been explored in greater detail in the action research book chapter I have co-authored (Hamilton and Varey, In Press).

3.1 The Action Research Paradigm

Action research provides a research setting which attempts to reconcile the positivist and interpretivist epistemological and ontological positions, concerned as it is with the bringing about of change. The action research model was first defined by Kurt Lewin (1946) in the aftermath of the Second World War as part of his research on a range of social problems such as deprivation, racism and industrial conflict. Lewin saw action research as an integral part of his four stage approach to what he called *planned change*, alongside his field theory, group dynamics, and his three-step model (Burnes, 2004). Lewin identified three questions that people faced when trying to solve a problem '1. What is the present situation? 2. What are the dangers? 3. Most importantly of all what shall we do?' (Lewin, 1946, p.201). He saw action research as a process that would analyse a range of options to identify and implement a solution. Lewin saw the approach as a gestaltist, involving the study and implantation of change in its natural setting, whether that be an organisation or community (Dickens and Watkins, 1999). Lewin also drew on his group dynamics and field theories to advocate that for change to be truly effective it must take place at a group level, actively engaging all participants within that group (Burnes, 2004). Lewin died shortly after he began his work on action research, leaving others to define it within the terms of their own research and those of the organisation being studied (Rapoport,

1970). The result is a wide range of definitions of *action research*, which has become an umbrella term for a number of variants within it (Cassell and Johnson, 2006, Elden and Chisholm, 1993).

3.2 Defining Action Research

Given the wide variation in action research approaches it is difficult to provide a single definition of action research, dependent as it is by a number of individual, organisational, situation and contextual factors (Zuber-Skerritt and Fletcher, 2007). That said definitions of action research typically centre on its cyclical process of inquiry, action and reflection (Reason and Bradbury, 2008) building on Lewin's own definition that 'it proceeds in a spiral of steps, each of which is composed of a circle of planning, action and fact finding about the action' (Lewin, 1946, p206). A number of different interpretations (e.g. Rapoport, 1970, Susman and Evered, 1978) are brought together in Reason and Bradbury's (2008, p4) definition:

'Action research is a participatory process concerned with developing practical knowing in the pursuit of worthwhile human purposes. It seeks to bring action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities'.

Although action research has a wide definition its general approach has a number of defining features built around the aims of taking action and generating knowledge. Bellows (1953, in Zaner, 1968) contrasted action research as a dynamic alternative to traditional forms of elemental, analytic research that could be considered as static, with the iterative cycles of action and reflection creating the opportunity to amend the action process taking into account of learning from the previous cycle. Action research is built around participatory principles, with participants being more than simply informed about the change or research process, but actually placed in a central, influential position (Burnes, 2004, Raelin and Coghlan, 2006). Action research studies are bound in the unique and often complex situational context within which

they are undertaken, as a result needing to capture subjective meaning and the social setting from the participants themselves (Morrison and Lilford, 2001).

Whilst these features, alongside action research models and characteristics (see Gummesson, 2000, Zuber-Skerritt, 1992) begin to build a picture of action research, there are other action-based research strategies that share similar elements. As such it is important to differentiate action research from other approaches such as; participatory research, action learning, action science, developmental action inquiry and cooperative inquiry (Raelin, 1999).

3.3 Scientific Justification of Action Research

Whilst action research was conceived by Lewin as a way of addressing inadequacies in traditional positivist research in understanding the social world, it was perhaps to be expected that questions would be asked about whether action research can be considered as a robust approach particularly in the way it generates knowledge and subsequent theory. Action research provides the counterpoint to positivist approaches that intrinsically centre on causality and correlation by providing a method of understanding inherent meaning in the way that participants have come to understand the world (Friedman and Rogers, 2009). In contrast to positivist approaches action research does not set tight controls and limits over its scope, approaches its subject in its natural setting, commences with little knowledge, is undertaken collaboratively with participants, is not exact in its measurement and is intent on generating knowledge that guides future behaviours (Dickens and Watkins, 1999). By accessing participants' experiences of a change intervention action research draws on *verstehen*, an objectively viable form of naturalistic interpretative inquiry, where the researcher attempts to understand the world from the interpretation of language, meaning, definitions, attitudes and feelings (Cassell and Johnson, 2006). Yet, consistent with Lewin's reliance on empirical data to frame a problem, the researcher is still able to neutrally utilise empirical data as the research requires, thus providing the basis for action research studies to deploy mixed research methodologies within the same epistemological and ontological standpoint (Cassell and Johnson, 2006).

Susman and Evered's (1978) consideration of the scientific merits of action research identifies a number of philosophical positions to legitimise action research. Rather than measure it against positivist criteria, they propose alternative criteria more appropriate to action research; understanding, as opposed to explanation; making things happen, compared with prediction; conjecture, versus deduction and induction; engagement, as opposed to detachment; and action, compared with contemplation (Susman and Evered, 1978). Taken together these criteria help illustrate the epistemological and ontological positioning of the action research approach as 'knowing through doing, making and applying discoveries' (Raelin, 1999, p120)

Action research is not without its critics, particularly when the division of research and action has produced a disproportionate imbalance of one over the other (Foster, 1972), or has only focussed on problem solving at the expense of emancipation (Peters and Robinson, 1984). When compared with other research methods it can be seen to lack precision (Eden and Huxham, 1996b) and scientific rigour (Cohen and Mannion, 1980). Such studies might be more appropriately considered as management consultancy, focussed as it is on pure problem solving. In reality an action research study delivers a theoretically-informed intervention and evaluates it in a systematic way (Eden and Huxham, 1996a, Parkin, 2009). Action research is a more rigorous form of inquiry generally has tighter timescales and is cyclical in nature, whereas consultancy generally involves a linear process (Gummesson, 2000).

3.4 Emergent Theory from Action Research

When considering the implementation of change in real-life settings Kurt Lewin observed that 'there is nothing so practical as good theory' (Lewin, 1951, p169). Aligned to the criticisms of action research as a robust research approach is a prevailing view that the generation of any emergent theory from an action research study will be entirely contextual and subservient to the study's change outcomes (Gergen and Gergen, 2008). However good action research strikes the balance between research and action and the development of causal theory should be an explicit goal of study design (Friedman and Rogers, 2009). The development of theory is critical to the definition of action research as a scientific research approach, assuming that it results in theories

that are explanatory, comprehensive, and falsifiable, in the sense that they generate empirical predications and testable hypotheses (Morrison and Lilford, 2001). Of these criteria the nature of action research theories as comprehensive is potentially troublesome, given how such an approach is anchored in the context of the study setting, although this is resolved through careful presentation of results and proclamations of generalisability (Friedman and Rogers, 2009).

The need to determine a causal explanation of the social world through the interpretation of the experiences of study participants runs through a number of features of good action research theory, identifying the meaningful nature of the social world and uncovering how participants' beliefs influence their behaviours, which in turn influence their actions (Friedman and Rogers, 2009). In practical terms this should mean generating theory from action research that is definitional, that it defines the theory's perspective, provides a framework for the concepts being studied, expands the framework into detail, draws generalities from the particular study, and identifies how the theory might have wider application for the work of practitioners (Huxham, 2003).

3.5 Action Research for Management Research

Having examined action research in a general sense, it is important to consider how action research could be implemented in this specific study, and hence consider what constitutes good action research for management research within an organisational context. Eden and Huxham (1996a) provide twelve characteristics of action research outcomes and processes within this setting that helps not only design action research to develop good emergent theory but also to provide a strong basis for establishing the validity of its findings. As such these were used as a checklist for the design of this study, as illustrated in table 1.

Action Research for Management Research - Conditions	Study Design Features
1. Implications beyond those required for action of knowledge generation in this study	The homogenous nature of the call centre setting provides an opportunity to generate knowledge that has wider applicability.
2. An explicit concern for theory	Generation of theory relating to intervention design and implementation presented for both research and practitioner audiences including host organisation
3. Explicit intervention design related to theory	Intervention design and implementation influenced by relevant theoretical frameworks relating to work-related stress and organisational interventions.
4. Generates emergent theory	Synthesis of quantitative and qualitative data to develop emergent theory.
5. Incremental theory building from particular to general	Review and reflection on research data as it is generated, feeding back into research and action elements.
6. Prescriptive research output with practical implications	Presentation of practical research outputs for both research and practitioner audiences including host organisation.
7. High degree of method and orderliness in research reflection	Robust research methods used for each method of data collection and analysis. Full ethical approval obtained prior to data collection.
8. Demonstrable and replicable process of theory generation	Mixed methods using widely accepted qualitative methods and quantitative methods.
9. Adherence to conditions 1-8	
10. Data collection and reflection processes focus on aspects not captured by other approaches	Data collection at macro and micro levels within intervention implementation stages providing unique understanding of participant experiences.
11. Triangulation of data to produce reliable research outcomes	Synthesis of quantitative and qualitative data to validate, challenge and corroborate findings.
12. Intervention history and context considered as part of result validity and applicability	Findings interpreted and presented within the bounds of the study setting and organisational context.

Table 1 - Comparison of Study Design Features with Conditions for Action Research for Management Research (Eden and Huxham, 1996a)

Adherence to the first eight of these characteristics is considered by the authors to be essential to determine the internal validity of an action research study, such that intervention implementation can be considered as a piece of authentic research. The remaining four characteristics relate to its external validity in order that its results can be seen as being representative of the situational context in which they were generated. Further reflection on these characteristics by Huxham and Vangen (2003) advances the understanding of action research for management research which does not seek to impose any particular ideological perspectives on the organisation, but rather works with those that exist within the organisation. The approach does not require study participants to be concerned or even conscious of the research element of the study, as such the high levels of participation in study design espoused in more participatory forms of action research are not essential. More specifically a number of design choices face action researchers working within this setting; the intrusiveness and visibility of data collection techniques to ensure a balance of rich, accurate detailed data, and an optimum level of risk taking in intervention design that balances the chances of intervention success with research outcome potential (Huxham and Vangen, 2003).

3.6 Process Evaluation

The design of research studies to evaluate the success of organisational interventions has been subject to a significant contemporary research focus. With the evidence of the effectiveness of such interventions being inconsistent and generally inconclusive (see Briner and Reynolds, 1999, Parkes and Sparkes, 1998, Richardson and Rothstein, 2008) focus has shifted to examining the efficacy of the design of studies concerned with such interventions. To meet this need it has been suggested that study designs need to be adapted to reflect the true, complex, often uncontrollable and unpredictable situations where interventions are implemented using a formative evaluation method to examine implementation process together with traditional summative outcome measures (Randall et al., 2005). Nielsen et al (2010b) identify a number of issues raised by the application of traditional research design to evaluating organisations interventions: the need to identify which process factors affect intervention, whether

interventions target the correct factors, and whether traditional intervention designs explain unexpected outcomes. The solution proposed by Randall et al (2005) is to measure not only the *outcome* of an intervention but also the *process* by which it was implemented in order to establish the exposure of the intervention to its target group. Evaluating the process of implementing an intervention offers an opportunity to open the metaphorical black box to better understand the otherwise hidden, unknown mechanisms at work. In this case combining process evaluation with traditional outcome evaluation allows an understanding not just of *whether* an intervention worked, but also *how* and *why* it did (Cox et al., 2007). Conversely if an intervention is unsuccessful, process evaluation can help determine whether this is due to poor design (i.e. theory failure) or poor implementation (i.e. process failure) (Nielsen and Randall, 2013). Within this it can detect the subtleties of implementation relating to reach, context, resource usage, barriers and participant exposure (Escoffery et al., 2009). Process evaluation does not exist as a single construct, rather it can serve different purposes as an study progresses, from initial pilot through to wider implementation (Glanz et al., 2002).

A number of process evaluation research frameworks have been developed (see Goldenhar et al., 2001, Nielsen and Abildgaard, 2013, Steckler et al., 2002) with Nielsen and Randall's (2013) three-level model looking beyond the intervention's initiation, strategy and activities, to consider also the mental models, such as participants' motivation and readiness for change, and the hindering and facilitating factors associated with the intervention's context. Accompanying these frameworks has been the construction of the methodological principles for undertaking process evaluation research. Quasi-experimental methodology centred on comparing intervention and control groups is seen as an ideal approach to evaluate an organisational intervention, however this can present its own challenges. Issues such as potential contamination between groups, selection of comparable control and intervention group participants, and the need to reach all intervention group participants requires particular consideration (Nielsen et al., 2010b). Mixed methods designs can provide a broad selection of data for both process and outcome evaluation. Complementing the consistent, controlled, verifiable and measurable benefits of quantitative data (Bryman, 2008), qualitative data can

help identify mechanisms behind changes, add meaning to quantitative data, validate and triangulate results, and describe the impact of context of the implementation process and eventual outcomes (Nielsen et al., 2010b, Nielsen and Randall, 2013). In addition, the use of qualitative methods offers increases methodological rigour and practical relevance (Biron and Karanika-Murray, 2014). Process evaluation can negate the need for a high degree of organisational stability throughout the implementation process. The difficulties of conducting research in these environments is well documented (see Biron et al., 2010, Griffiths, 1999) however the evaluation framework can be designed in such a way to separate intervention effects from those resulting from wider organisational effects (Nielsen et al., 2010b).

3.7 Two-stage Framework Design

This review of the literature with regard to the broad range of approaches that can be characterised as action research, narrowing to the detailed characteristics that define action research in management research, provides the basis with which to develop a framework to structure an approach to action research for this purpose, incorporating process and output evaluation.

A number of factors identified by Chisholm and Elden (1993) help define an emerging approach to action research in dynamic organisations, characterised by complex changes in organisational interdependences and a faster pace of organisational change. These factors are positioned on a number of continuums that, taken together, present a clearer picture of an action research study of this kind. Organisational interventions are typically targeted between group and organisational level and are therefore less complex than societal or trans-societal settings (figure 3). The research setting is typically tightly organised, with clear role definition and clarity for all participants, clear organisational purpose and goals, and formal operational and resource management systems and procedures (figure 4). As such, interventions are designed to bring about change within organisational parameters such as task, communication and engagement processes, rather than more fundamental elements such as organisational structure or corporate strategy (figure 5).

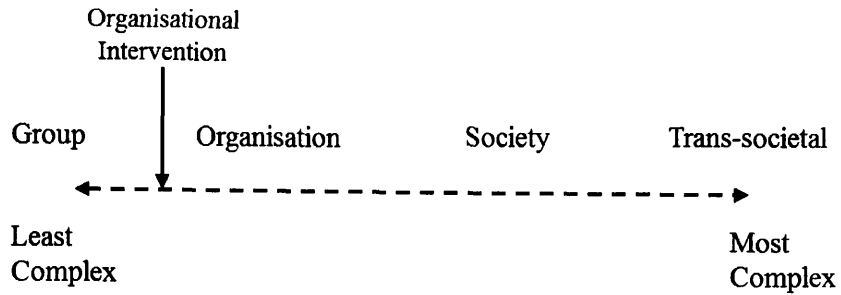


Figure 3 – Hierarchy of System Levels
(adapted from Chisholm & Elden, 1993)

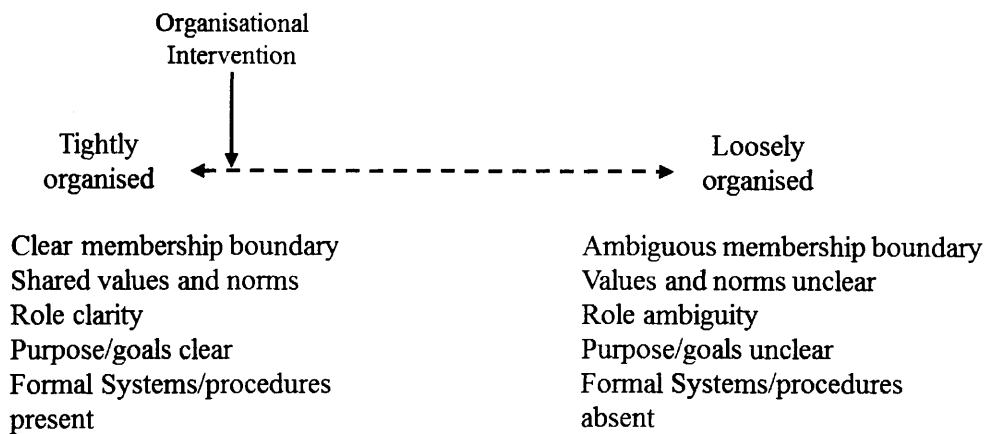


Figure 4 – Characteristics of Highly Organised and Under-organised Systems
(adapted from Chisholm & Elden, 1993)

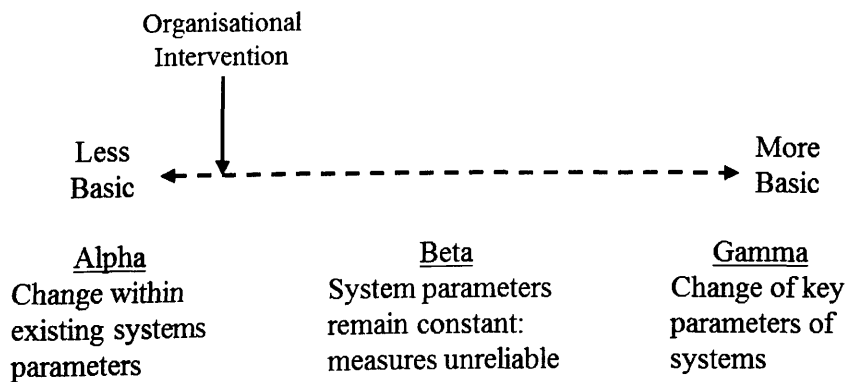


Figure 5 – Types of Action Research Change Goals
(adapted from Chisholm & Elden, 1993)

Consideration of the openness of the process and the role of the researcher reveals adaptive roles as the intervention design and implementation progresses. In the first instance the intervention's initial form is designed by the researcher informed by relevant theory then adapted to the organisational setting with the involvement of selected participants from the host organisation's hierarchy. As such at this *macro* intervention stage the process adopts a more closed action research process (figure 6) and the researcher's role dominates the process (figure 7) in a manner similar to the participatory action research model where the researcher is a facilitator within the setting (Cassell and Johnson, 2006). As the intervention design is finalised and moves towards implementation the approach shifts to one more akin to the emancipatory principles of participatory research practices, designed to empower participants and provide redress for asymmetrical power relationships (Cassell and Johnson, 2006) as managers and team members work together to identify problems and develop solutions to resolve these issues. As such this *micro* intervention stage adopts a more open action research process that is largely invented and discovered (figure 6), collaboratively managed and involves joint decision making processes (figure 7). This visualisation helps anchor the research elements of the action research study as it moves through its implementation phases.

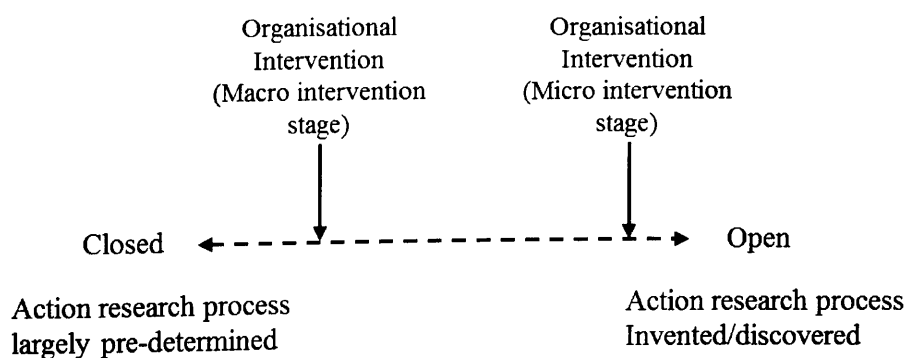


Figure 6 – Openness of Action Research Process
(adapted from Chisholm & Elden, 1993)

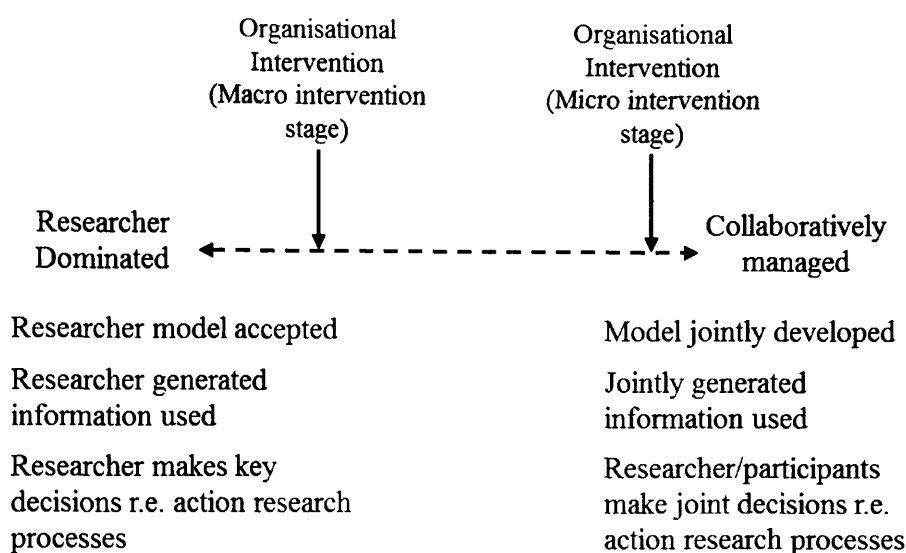


Figure 7 – Researcher Role in Action Research
(adapted from Chisholm & Elden, 1993)

This *macro-micro* two-stage approach, synthesising as it does Chisholm and Elden's continua (1993) and Cassell and Johnson's definitions (2006) can be brought together with the Randall et al's principles of process evaluation (2005), Lewin's iterative cycles of action research (1946), and Eden & Huxham's 12 characteristics of action research outcomes and processes (1996a) in the conceptual framework illustrated in figure 8. This captures key elements of the overall action research process and helps guide the detailed design of the research methodology required for the specific research context and study setting.

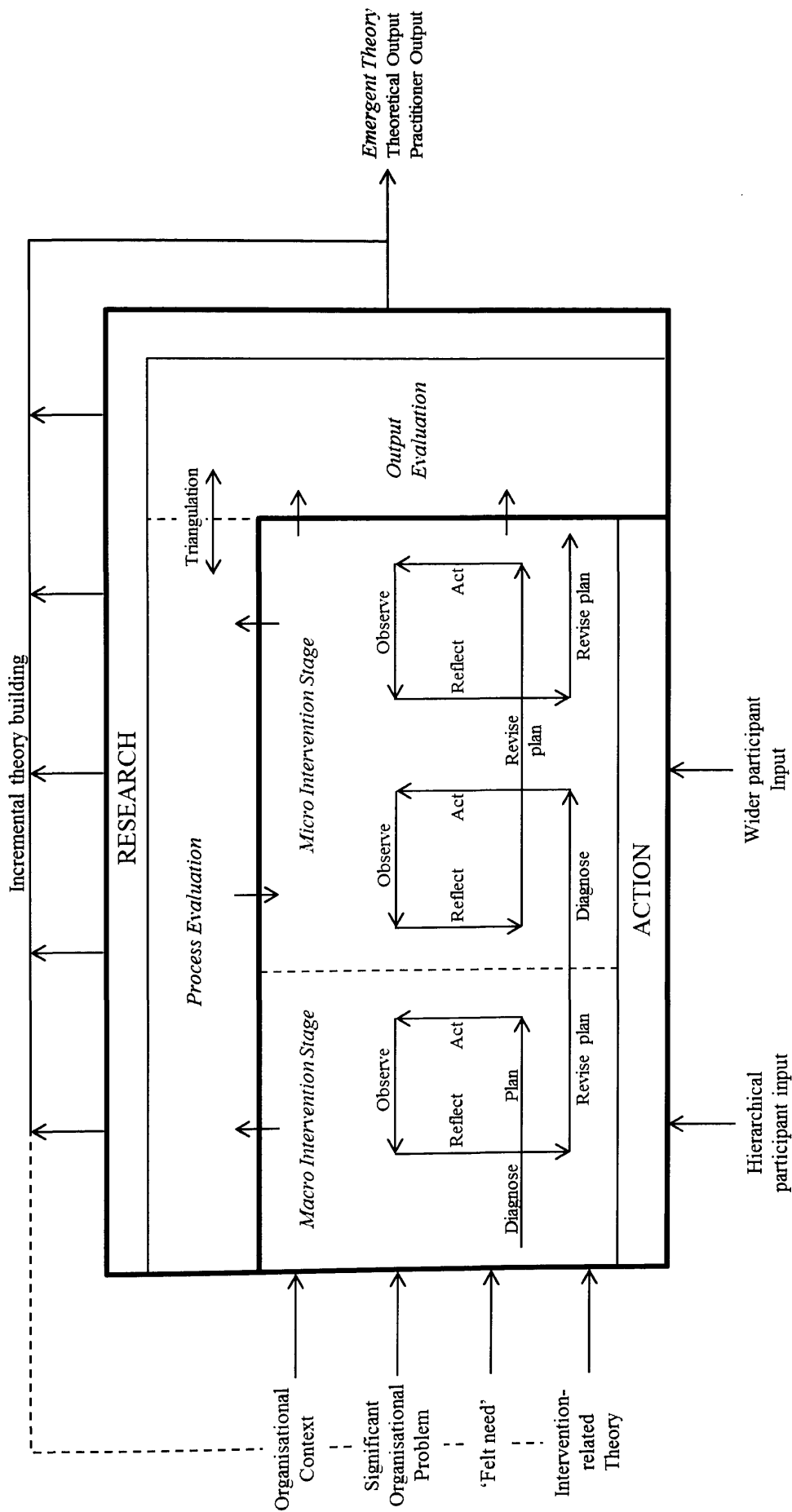


Figure 8 – Conceptualised Two-Stage Action Research Framework - incorporating principles of process evaluation (Randall et al, 2005), iterative cycles of action research (Lewin, 1946), and conditions for action research in management research (Eden and Huxham, 1996a).

Part 3

act

1. take action; do something

Chapter 4 - Intervention Design

The two stage action research framework helps relate the action and research components of the study, providing the platform for the detailed design of each aspect. This chapter considers the guiding principles and design considerations for organisational interventions, applying them to design of this study's intervention for work-related stress.

4.1 Organisational Intervention Design

As has been identified, one of the essential aspects of establishing the internal validity of an action research study is ensuring that the intervention itself has a strong theoretical basis (Eden and Huxham, 1996a). Job stress interventions can be categorised in accordance with the level within the organisation that they are targeted. Individual interventions aim to improve employee resilience through increasing individual resilience and addressing stress symptoms. Organisational-Individual interventions overlap individual and organisational issues and can include support groups, participation, and person-environment fit. Organisational interventions influence wider organisational states such as the physical psychosocial environment through initiatives such as training, education, communication, job redesign and restructuring (DeFrank and Cooper, 1987, Giga et al., 2003b). Organisational interventions can be defined as 'planned, behavioural, theory-based actions that aim to improve employee health and wellbeing' (Nielsen and Abildgaard, 2013, p278) which encompasses the type of intervention being evaluated in this study.

Much research has been undertaken into the effectiveness of individual interventions, with results often proving inconclusive and affected by methodological issues and small sample sizes (Briner and Reynolds, 1999, Giga et al., 2003b). Individual interventions have been found to have a limited effect on long term behavioural change (Giga et al., 2003b), although resilience and coping skills have been found to be effective (e.g. Poelmans et al., 1999, Whatmore et al., 1999), and CBT and alternative therapies have been found to have good short term effects (Richardson and Rothstein, 2008). Reviews of organisational-level interventions have generally found them to have positive effects (e.g. Theorell and Wahlstedt, 1999, Wynne and Rafferty,

1999), particularly in comparison to interventions that have an individual-only focus (Burke, 1993, LaMontagne et al., 2007). Several studies have reported the difficulty in implementing organisational interventions, highlighting issues with management commitment and staff turnover (Biron et al., 2010) and managing employee expectations regarding intervention outcomes (Aust et al., 2010). A number of different success factors for the implementation of organisational interventions have been identified, including employee perception of the quality of the intervention (Nielsen et al., 2007), clearly defined roles, organisational climate and readiness to change (Nytro et al., 2000). One common theme emerging from the literature is the need for active participation and involvement of employees at each stage of intervention implementation. This helps optimise the fit of intervention to the organisation, smoothes the change processes, and increases intervention exposure (Biron and Karanika-Murray, 2014, DeJoy et al., 2010, Nielsen et al., 2010a). This supports the six aspects of a participatory process, identified by Arneson et al (2005): that it empowers employees; provides reflection on their own wellbeing; prompts awareness and insight of their own work environment; facilitates self-direction and self-management to resolve work issues; enables group coherence, social support, and action taking. Reviewing this Nielsen and Abildgaard (2013) suggested that participatory processes work by enabling employees to mobilise internal resources through principles of job crafting, and through increasing their sense of social belonging through principles of social identity theory. These participatory and emancipatory principles of good intervention design appear to perfectly align to the Lewinian principles of action research. As such the two areas were brought together in the design of the intervention used in this study, where employee participation in the intervention is embedded into cycles of iterative action and research that generate data relating to the intervention's effectiveness.

4.2 Design Considerations

At the heart of this study's intervention was a SRA designed by myself to help managers control the exposure of their team members to work stressors at local level. The starting point for the design was the HSE's recommended approach to risk assessment (Health and Safety Executive,

2012), known as the Five Steps to Risk Assessment. This is an industry standard risk assessment approach used for managing the risk from both safety hazards, such as falls from height, and health hazards such as hazardous chemicals and manual handling. A number of studies have examined the effectiveness of this approach in terms of managing general health and safety hazards (e.g. Gadd et al., 2003, Neathey et al., 2006) and more specifically when applied to psychosocial hazards (Tasho et al., 2005). The five steps present a cyclical approach to managing the risk of harm from a specific hazard:

1. Identify the hazards
2. Decide who might be harmed and how
3. Evaluate the risk and take action
4. Record the findings
5. Review and revise

An important feature of this approach is the need to ensure that the risk assessment is reviewed on an ongoing basis to ensure that significant changes are evaluated and reflected in the document. The risk assessment process is therefore cyclical, with the five steps closely resembling the steps contained in the Lewinian action research cycles, as illustrated in figure 9. As such a SRA designed around the five steps fits into the micro intervention stage action research cycles in the study's action research framework.

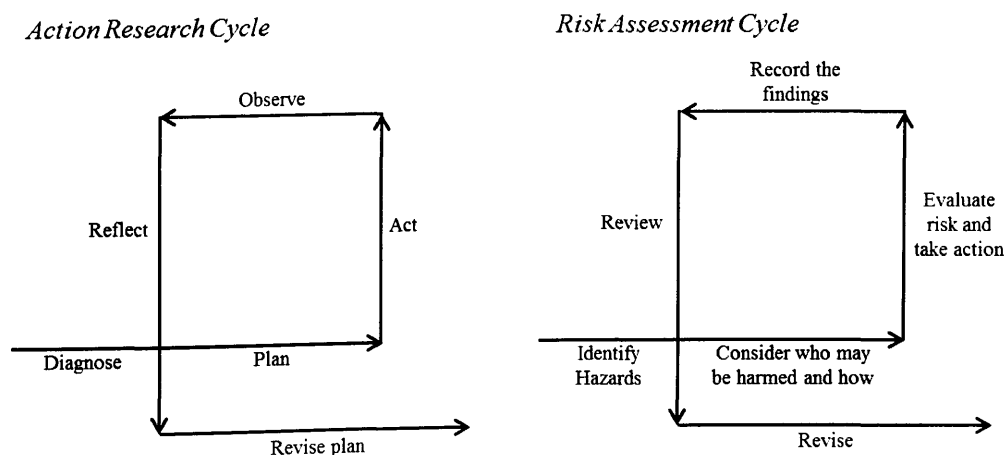


Figure 9 – Comparison of Action Research and Risk Assessment Cycles

This five step process can then be applied to each of the six Management Standards for work-related stress, providing a logical, progressive and cyclical process of managing the risk from work stressors. Taking this into account, the intervention comprised two component parts; management training delivered to managers in the macro intervention cycle, enabling them to utilise a SRA embedded in the micro intervention cycles.

4.3 Stress Risk Assessment

The SRA incorporated the five steps and participatory principles to help managers work with their team members to identify work stressors at a local level to the team and then implement control measures to manage those stressors. Drawing on the importance of employee participation, the process of implementing the SRA was a collaborative one involving the manager and the team together, with the output captured in the SRA pro forma (see Appendix 1). The SRA was structured around the six Management Standards therefore capturing an overall assessment of the team's work stressors. The process for completing the risk assessment for each standard is illustrated in figures 10 and 11.

4.3.1 Step 1 – Identify the Hazards

Together the manager and team identify the significant workplace factors that have the potential to cause team members stress, with the SRA pro forma giving a list of suggested factors for consideration. Only significant factors should be considered i.e. those that have potential to cause harm to health if they are not managed.

4.3.1 Step 2 – Consider Who May Be Harmed and How

Having identified aspects of work that might cause stress, consideration is given to the nature of the roles in the team and whether some roles have a higher exposure to certain stressors than others. Managers were encouraged to use a range of data sources to help identify particular aspects of work or the working environment where exposure to workplace stressors may be an issue.

4.3.3 Step 3 – Evaluate the Risk, Allocate a Risk Level, and Take Action.

The next step is to capture the existing control measures that are in place to help employees cope with the pressure of their work so that a balanced view can be taken on the overall risk level for the particular Management Standard. The manager and team are asked to categorise the risk level, taking account of the significant factors identified in steps 1 and 2, and the current control measures identified in step 3. This is done by allocating a high, medium or low risk level based on their knowledge of the situation, using the following guidance:

- | | |
|------------|---|
| High (H) | Likely to cause harm, current control measures are inadequate and should be improved within a fixed timescale |
| Medium (M) | Some risk to employees, additional control measures should be considered |
| Low (L) | No significant risk to employees, current control measures are adequate |

Having assessed the risk level, an action plan is then developed where the current measures are considered to be inadequate.

4.3.4 Step 4 – Record the Findings

Once all six Management Standard areas have been assessed, the actions identified throughout the SRA are transferred to a consolidated action plan on the front page of the document. Each action is given an owner and timescale for completion.

Support		
Employees receive adequate support and information from colleagues and managers		
<p>What has significant potential to cause stress?</p> <ul style="list-style-type: none"> • Lack of support from managers & colleagues • Employees unaware of available support • Lack of communication & consultation • Failure to celebrate success • A culture that considers stress a sign of weakness • Expectation to work long hours or take work home • Other 'support' issues... 	<p>Step 1 – Identify the hazards</p>	
<p>Have any other 'support' issues been identified in team meetings, 1-2-1's, staff survey results etc.?</p>		
<p>What measures are already in place to help address these issues?</p>	<p>Step 2 – Consider who may be harmed and how</p>	
<p>Local Action Plan What more can be done at a local level? What issues need escalating?</p>		
<p>How significant are 'support' issues?</p> <p>L M H</p>		<p>Step 3 – Evaluate the risk and take action</p>

Figure 10 – Stress Risk Assessment Process – Steps 1 to 3

4.3.5 Step 5 – Review and Revise

The SRA was implemented in two six-month micro intervention cycles. Managers were required to review the document with their team as part of a regular team meeting during each cycle. This would allow the manager and the team the opportunity to reflect on the changing nature of their workplace, to review the SRA content, consider any changes that need to be made, and identify any additional actions required.

Team - _____

Department - _____

Completed by - _____ Date - _____

Action Plan Summary		By who?	By when?
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

This plan should be regularly reviewed with the team

When?					
By who?					

Step 4 – Record the findings

Step 5 – Review and revise

Figure 11 – Stress Risk Assessment Process – Steps 4 and 5

4.4 Management Training

Managers within the intervention group each attended a half day training session facilitated by me. The primary aim of the session was to equip them with an understanding of stress and the knowledge required to implement the SRA with their teams. The session had four stated learning objectives, to provide:

- an understanding of what stress is and how it can affect people
- the knowledge required to complete and implement the SRA
- some basic stress management strategies to help managers and their team members
- awareness of how to manage an individual case of stress

The objectives were communicated to participants in advance of the session to ensure they understood what the session aimed to achieve. It was delivered in a participative manner, with debate and discussion amongst participants encouraged to help them explore and probe the training themes and messages. A number of case studies were used to apply the learning to their work setting, with a particular focus on using the SRA to identify solutions to manage stressors for their team. The management training material is included in Appendix 2.

The session was split into three sections. The first developed participants' knowledge of stress, explored the rationale for managing stress, participants own perceptions of stress and introduced the Management Standards approach. The second part of the session took participants step-by-step through the SRA process using case studies, analogies and a practical exercise. The third section of the training focused on examining signs and symptoms of stress and identifying how far a manager should go in making reasonable adjustments to an individual's work to prevent harm to their health. Following attendance at the training session, managers were expected to return to the workplace and at an early opportunity meet with their team to work through the SRA, develop a local action plan, and review and repeat through each micro intervention cycle. To support managers in this process I maintained regular contact with managers through email, telephone and face-to-face contact to provide advice and guidance, as well as supplementary documents such as a SRA Top Tips (see Appendix 3).

Chapter 5 - Research Design and Methodology

This chapter describes the detailed design of the research evaluation framework, particularly the use of process and output evaluation using mixed qualitative and quantitative methods to generate suitable and sufficient data to fully explore the theoretical model.

5.1 Research Evaluation Framework

Building on the two-stage action research framework, I used Nielsen and Abilgaard's (2013) evaluation framework to structure the research design. This provides a seven element framework for evaluating both process and outcome, presented as a sequential progressive chain to link the intervention to the observed outcomes. Each intervention and organisational setting has its own context and priorities, as such this framework provides a blueprint that can be adapted to a particular intervention programme.

The first element considers the *changes in attitudes, values and knowledge* required to replace the old mental models associated with work practices with new ones. The *development of individual resources* then considers the emancipatory effects of the intervention in empowering and equipping participants through improved self-efficacy and self-confidence. Once knowledgeable and empowered, *the changes in working procedures* should then be observed. These first three elements provide a structure for process evaluation, helping capture an understanding of the success of the implementation of the intervention.

The remaining elements provide a structure for evaluating the outcome of the intervention. Firstly, whether the intervention resulted in *changes to working conditions* provides evidence of an improvement in psychosocial working conditions. This then connects directly then to any *changes in employee health and wellbeing*. At an organisational level this could then be expected to translate into *changes in organisational quality and performance*. The final element relates to changes in *occupational safety and health management*, as health and safety routines become embedded.

Within the epistemological and ontological positioning of my study outlined in chapter 1.5, I used the first five elements of the framework to guide the selection of qualitative and

quantitative methods to achieve the process and output evaluation aims defined in the two-stage action research framework, illustrated in figure 12.

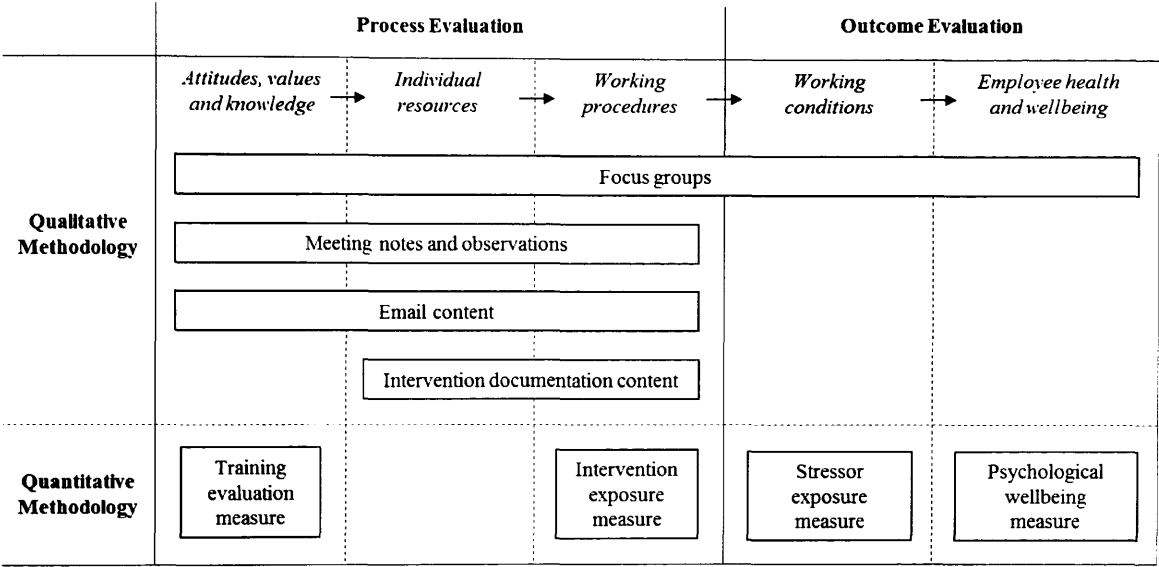


Figure 12 – Research Design Incorporating Process and Output Evaluation (adapted from Nielsen and Abildgaard, 2013)

The process evaluation utilised predominantly qualitative methods to generate data relating to the participants’ lived experiences of the intervention. Data would be collected through focus groups with intervention group participants, and through content analysis of a range of sources generated by the intervention, including email correspondence, intervention documentation and meeting notes and observations. In addition quantitative data would be collected for process evaluation to help assess the effectiveness of the management training and the participants’ exposure to the intervention. The outcome evaluation would use predominantly quantitative methods related to assessing the working conditions and wellbeing outcomes associated with the intervention. In addition the focus groups provided insight from participants into their working conditions and wellbeing.

5.2 Research Timeline

The study commenced in June 2013 with an initial presentation to the ServiceZone leadership team outlining the study and its potential timeline, followed up by a discussion about the organisation, the issues the team had, and its desire to take action (see Appendix 4). At this meeting a nine-month timeline was outlined for the study, with data collection points for the structured survey at baseline (T1), 6-month (T2) and 9-month time points (T3). Following the aftermath of the adverse weather event in August 2014 the third survey and focus groups were delayed by 3 months. The final study timeline is illustrated in figure 13, showing the alignment of intervention stages with process and outcome evaluation activities.

Ethical approval for the study was granted by Lancaster University's Research Ethics Committee on the 28th October 2013.

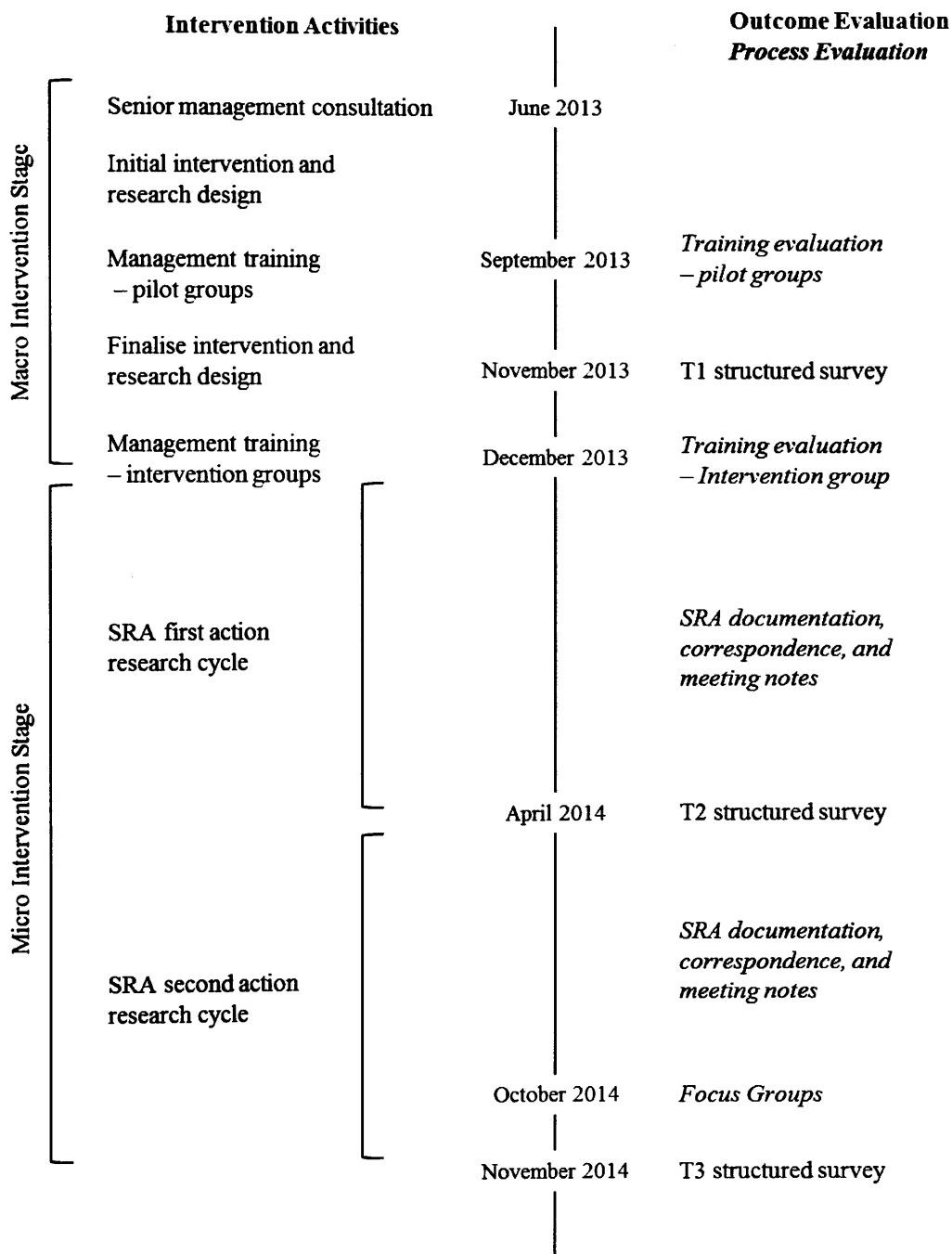


Figure 13 – Study Timeline for Intervention and Evaluation Activities

5.3 Sampling

In accordance with the action research approach the formation of the intervention and control groups was undertaken in consultation with ServiceZone’s leadership team and HR Manager. Using structure charts for the whole of the organisation it was evident that ServiceZone’s operations were divided between two principal areas of activity, the Call Centre and Collections. The generic structure chart described in figure 1 is adopted by both functional areas, so I worked with the leadership team to identify areas of both the Call Centre and Collections that were comparable in terms of size and work profile. Two team leaders were identified from each area, each of whom was responsible for a similar number of team managers and CRMs. These were then randomly allocated to the intervention group and to the control group such that there was a Team Leader from the Call Centre and Team Leader from Collections in each group. The sample profile at the start of the study (T1) can therefore be seen in table 2.

Table 2 – Constitution of Intervention and Control Groups at T1

Position	Intervention Group	Control Group
Team Leader	2	2
Team Manager	17	14
CRM	185	206
Total	203	221

As a result the management training element of the intervention was delivered to the 17 team managers in the Intervention group, who would then implement the SRA with their teams encompassing 185 CRMs.

5.4 Quantitative Methods

The outcome effect of the intervention was measured using a longitudinal quantitative structured survey at three time points; prior to intervention (T1), at 6 months (T2) and at 12 months (T3).

5.4.1 Survey Measures

In order to measure the outcome effect of the intervention a range of psychological measures were considered. Rick et al's (2001) review of psychological health measures considered that it was not possible to identify one measure that is clearly superior to others, rather that measures should be selected according to the specific need of the study and the research setting. Both Rick et al's review and another by Bowling (2005) provide a comprehensive summary of the wide variety of measures available at the time each review was undertaken. The research design's evaluation framework identified a requirement for two principle outcome measures, one to determine changes in working conditions through employees experiencing work-related stress and another to determine changes in employee psychological wellbeing.

5.4.1.1 *Work-related Stress*

To determine a participant's experience of work-related stress two measures were considered, the Work-related Stress Indicator Tool developed by the HSE (Edwards et al., 2008), and ASSET (Faragher et al., 2004). Both measures have been designed as screening tools in support of an organisational-level stress risk assessment process. Both examine work stressors such as job demands, control, relationships, and working conditions, however ASSET explores a range of factors peripheral to the job itself, such as pay and benefits, work-life balance, attitudes, and commitment. The HSE tool has been more widely used across intervention studies, is freely available, and maps directly on to the six Management Standards that were used to structure the SRA. In addition a range of normative data from the HSE's own use of the tool is available for comparison. As such it was selected as the measure of participant's experience of work-related stress. The HSE tool was originally developed as a 35-item version and provides a valid survey instrument (Edwards et al., 2008). However a shorter 25-item (HSE-25) version of the tool has

been evaluated and found to provide a similar validity and reliability as the longer form whilst being less disruptive (Brookes et al., 2013, Edwards and Webster, 2012, Houdmont et al., 2013). HSE-25 asks respondents to consider 25 statements according to two scales (1 = Never, Seldom, Sometimes, Often, 5 = Always, or 1 = Strongly Disagree, Disagree, Neutral, Agree, 5 = Strongly Agree) across seven factors (demands, control, management support, peer support, role relationships, and change) based on their experience at work over the previous six months. The full question set is included in Appendix 23.

5.4.1.2 Psychological Wellbeing

In considering options for measuring participants' psychological wellbeing there are number of measures available, the most widely used being the General Health Questionnaire (Goldberg and Williams, 1988), first developed in the UK and used worldwide. Like HSE-25 and ASSET it operates as a simple screening tool, in this case for identifying broader forms of psychiatric morbidity such as anxiety and depression. It is supported by a comprehensive handbook detailing its method and studies of its validity and reliability. Originally developed as a 60-item version, a number of shorter versions have subsequently been developed; the 30-item version is a commonly used in large scale epidemiological and social surveys (e.g. Huppert and Garcia, 1991, Marmot et al., 1991). Although the shorter versions offer slightly less validity and are more sensitive they provide more useable, time-efficient formats, with the 12-item version (GHQ-12) seemingly as effective in case detection as the widely used 30-item version (Bowling, 2005) and having been used in a large number of occupational studies (e.g. Burbeck et al., 2002, Guppy and Weatherstone, 1997, Kinman and Jones, 2008). GHQ-12 was therefore selected as the measure of participants' psychological wellbeing.

GHQ-12 assesses the respondents present state by asking them to rate how their health has been over the last few weeks according to two scales; one for positively positioned questions (1 – More so than usual, Same as usual, Less than usual, 4 – Much less than usual) and one for negatively positioned questions (1 – Not at all, No more than usual, Rather more than usual, 4 – Much more than usual). The full question set is included in Appendix 24.

5.4.1.3 Non-work Stressors

During planning discussions with the ServiceZone leadership team at the macro intervention stage there was a view amongst members of the team that non-work stressors were a significant cause of employee stress particularly amongst younger employees. One member of the team stated that they felt that the combination of young age and complicated domestic lives meant employees often had ‘chaotic lives’. They perceived this was a predominant cause of poor psychological wellbeing.

It is long established that non-work stressors, or life events as some authors have described them, contribute to both psychological and physiological wellbeing (Haynes and Feinleib, 1980, Haynes et al., 1978, Steffy and Jones, 1988). However only a limited number of studies have considered non-work stressors as a factor in relation to the impact of psychosocial work stressors on employee health (Clark et al., 2012). Those that have (Artazcoz et al., 2004, Griffin et al., 2002, Phelan et al., 1991, Stansfeld et al., 1997a, Weinberg and Creed, 2000) have focused on narrow definitions of non-work stressors and weak measures in an attempt to capture their effect on physiological and psychological wellbeing (Clark et al., 2012). Previous studies have used and adapted a variety of measures, capturing life issues such as divorce, marriage and debt (Steffy and Jones, 1988), social participation, social trust, neighbourhood anchorage, and emotional support (Wemme and Rosvall, 2005), and the number and ‘upsettingness’ of life events (Burke, 1998). Measures that exist to examine conflict between work and family life have had other difficulties (Netemeyer et al., 1996), such as single item measures that result in random measurement error (Rice et al., 1992, Voydanoff, 1988), proved lengthy and cumbersome to use (Burke, 1988, Burke et al., 1979), focussed purely on conflict outcomes (Bedeian et al., 1988, O’Driscoll et al., 1992), or examined directionality in causation (Netemeyer et al., 1996). This has resulted in a lack of empirical evidence of the effect of non-work stressors (Clark et al., 2012, Lantz et al., 2005) despite the fact that researchers have long believed their effect on psychological and physiological health is at least comparable with that of work stressors (Beauregard et al., 2011), with some evidence that, like the findings of this

study, non-work stressors are more influential than work stressors (Frone et al., 1992, van Rijswijk et al., 2004).

For this study I required a simple filtering measure to facilitate the segmentation of data according to whether participants had non-work stressors present in their lives or not. As such I decided to develop simple bespoke measure, adding three questions to the GHQ-12 section of the survey to capture the influence of non-work stressors on psychological wellbeing. Using a caseness scoring system it was anticipated that the additional questions would help identify the prevalence of non-work stressors in the sample. I designed the additional questions to ensure simplicity of language, a single part format, common meaning, and a questioning style consistent with the other GHQ-12 questions (De Vaus, 2002b). The additional questions were:

1. Have you recently felt you can't cope with issues in your personal life?
2. Have you recently felt issues away from work are affecting your health?
3. Have you recently thought that coming to work is an escape from personal issues?

In addition to HSE-25 and GHQ-12 the survey collected a range of demographic data to provide greater understanding about the profile of the participants and the nature of their work, allowing segmentation and controlling of data during analysis. These include work pattern, length of service, job type, department, gender and age.

5.4.2 Data Collection

In designing a method for the collection of quantitative data a number of factors were taken into account regarding the nature of the sample. ServiceZone confirmed that all their employees were desk-based, work daily with PCs, spoke English as a primary language, and had internet access. It employed a mixture of full- and part-time employees, the majority of whom worked during the organisation's core hours of Monday to Friday 8am to 5pm, although a small number worked an evening shift until 10pm, and others at weekends. The ServiceZone HR Manager was able to confirm that accurate employee data would be available from the organisation's HR information system, including full name, employee number, manager, and email address. With this in mind the online survey tool SurveyMonkey was selected as the delivery method for the

structured survey as it was cost efficient, had the ability to track and monitor completion rates and send reminders, and could export data in SPSS format.

5.4.3 Survey Design

With the survey largely adopting standardised measures the focus of the design stage was on optimising the format, layout and style to maximise response rates. Although the survey would be administered online, a number of general principles of questionnaire design and delivery are equally relevant to online surveys (De Vaus, 2002b, Edwards et al., 2002). The survey design included the Lancaster University logo in the header, with the survey colour scheme customised to match the university corporate colours thereby communicating the sponsorship of the survey by an authoritative organisation (De Vaus, 2002a). The first screen of the survey, included in Appendix 8, contained the consent form that must be accepted before the participant could progress to the survey itself. This included a link to the survey Information Sheet that was available online (see Appendix 9). The subject-relevant questions were placed at the front of the survey, with HSE-25 in section 1, GHQ-12 and Non-work Stressor Indicator questions in section 2, and with the demographic questions in the third and final section. This made the overall survey relatively short, taking less than 10 minutes to complete to maximise the chance of full completion (Edwards et al., 2002). Horizontal response ordering was used to create clear choice of responses, with only five questions per screen to avoid participants needing to scroll down to see all questions. A progress bar was included at the bottom of each screen to help participants appreciate the brevity of the survey. The final screen of the survey asked if participants wished to be entered into the prize draw.

5.4.4 Survey Piloting

Prior to its launch at T1, the survey was piloted to provide a rigorous evaluation of the whole process ahead of distribution (De Vaus, 2002b). This process was used to test not only the questionnaire design but the technical feasibility of delivering an online survey to ServiceZone employees. The pilot was done with a group of CWG and ServiceZone HR employees (n=8). They were contacted via email in advance to ask them to participate in the pilot, confirming that

the resulting data would not be analysed. The pilot proved that the technical solution worked well, there were no issues receiving emails or in accessing and completing the SurveyMonkey questionnaire. There were several comments from pilot participants, including the wording of the standardised measure responses to provide greater clarity for terms such as ‘seldom’ and ‘recently’. Reflecting on the feedback from the pilot study no changes were made to the HSE-25 or GHQ-12 questions so as not to damage the integrity of the measures, however the demographic question responses were revised and additional information on ServiceZone support contacts included in the Information Sheet.

5.4.5 Sample Coding

The sample was coded prior to loading into SurveyMonkey so that each response would include the participant’s individual code. This ensured participant anonymity as individual names could be kept separate from the survey data. In order to ensure tracking of participants longitudinally through each of the three surveys the codings were grouped; Intervention TMs (1xxx), Intervention CRMs (2xxx), Control TMs (3xxx) and Control CRMs (4xxx). This approach became important at T2 and T3 data collection points as participants joined and left the sample.

5.4.6 Survey Distribution

Achieving a good level of response and quality to the survey was important to the study to minimise the effect of any employee turnover that would affect the sample over the study’s longitudinal timeline. As such, careful thought was applied to designing the survey distribution process to maximise response and completion rates.

The use of monetary incentives has been found to increase response (De Vaus, 2002a) and ServiceZone agreed to fund a prize draw for respondees with the chance to win a £50 voucher for an online retailer. The use of pre-contact communication is suggested to provide advanced information on the survey. The Managing Director of ServiceZone sent out an email the day before the survey was distributed to introduce the survey and provide his personal endorsement of it (see Appendix 10). The survey email was constructed in such a way to appear friendly and adopt an informal communication style similar to that used in ServiceZone (see Appendix 11).

As the ServiceZone HR data included employee first names these were used in SurveyMonkey to personally address the email to each participant. This approach was repeated with the follow-up emails that were sent to non-responding participants one week and two weeks into the survey period. The survey closed after 3 weeks once the response rate became negligible – see figure 14.

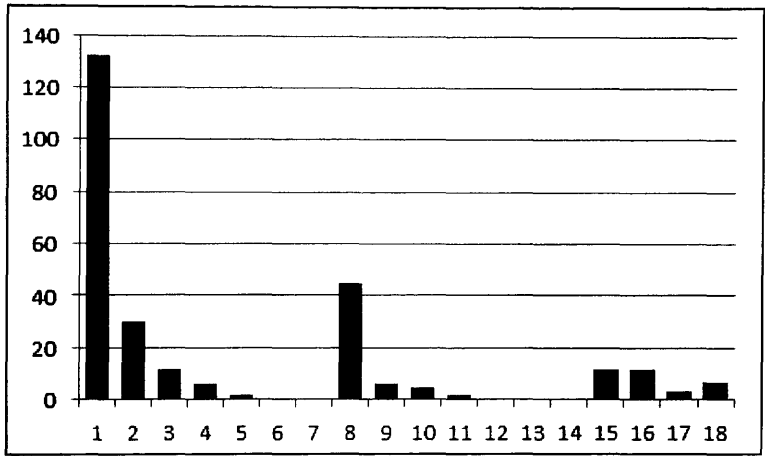


Figure 14 - T1 survey response rate profile

5.4.7 Sample Changes

The same process was used to assemble the samples for the T2 and T3 surveys, with HR data obtained from ServiceZone, then cleansed to remove duplicates and clarify any missing data. The biggest challenge at this stage was tracking employees who had left ServiceZone since the first survey, as well as those that had joined the organisation. An added challenge was identifying those that had moved from the control group to intervention group and vice versa. The coding system utilised made this a straightforward if laborious task of line-by-line comparing the T2 data file with the T1 file, and similarly the T3 data file with the T2 file. For the T2 survey the coding system was adapted to identify new starters with the addition of a 1 in front of the code (e.g. 12xxx for Intervention CRMs) and to identify those that moved between groups with a .1 at the end of the code (e.g. 14xxx.1 for Control CRMs). Similarly for the T3 survey new starters were allocated a 2 in front of the code (e.g. 22xxx for Intervention CRMs)

and to identify those that moved between groups with a .2 at the end of the code (e.g. 14xxx.2 for Control CRMs). This ensured that new starters, leavers, and internal movers could be tracked at every stage of the study timeline.

Analysis of the sample data showed the movement in and out of each sample group. The CRMs in both intervention and control groups were the most volatile, with very little change in the TM samples in either group. In contrast the CRMs number changed significantly at each survey point. Figure 15 shows the overall sample change for CRMs in the intervention group. From the first sample of 185 participants at T1, 117 were still present at T3 representing 63.2% participant retention.

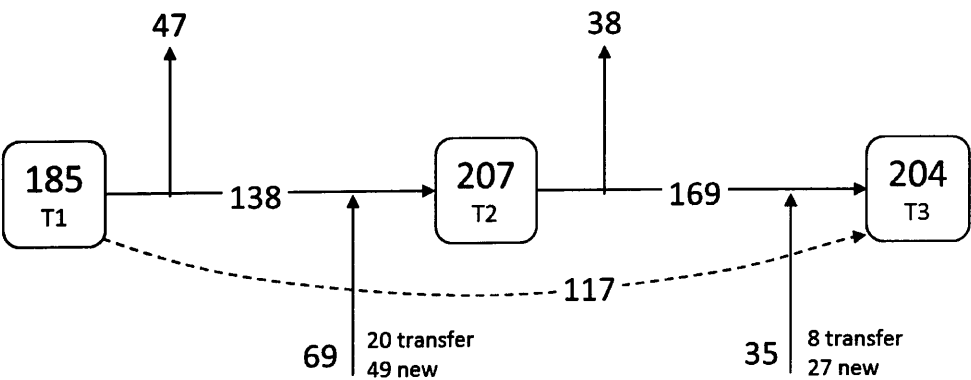


Figure 15 – Intervention group CRM sample changes (T1-T2-T3)

The control group of CRMs experienced a similar level of participant movement over this time, as can be seen in Figure 16. From the first sample of 206 participants, 133 were present at the third survey (64.5% retention).

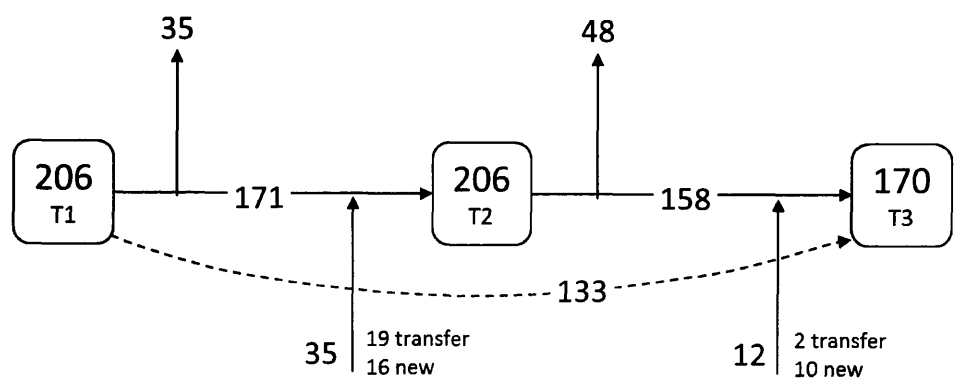


Figure 16 – Control Group CRM sample changes (T1-T2-T3)

Closer analysis of the sample data shows that neither group is homogenous in relation of participant retention. Each group comprises participants from Contact Centre teams and from Collections teams. Comparison of sample data between these two areas within both the intervention and control groups showed large differences in participant retention characteristics. Figure 17 compares the sample changes in the Contact Centre and Collections within the intervention group. This shows only 40 of the 96 participants in the Contact Centre were present in the third survey (41.7% retention), however in Collections 77 of the original sample of 89 were present at T3 (86.5% retention).

This pattern is repeated in the control group, as illustrated in Figure 18. This shows only 58 of the 129 participants in the Contact Centre were present in the third survey (44.9% retention), however in Collections all of the 77 participants were present at T3 (100% retention).

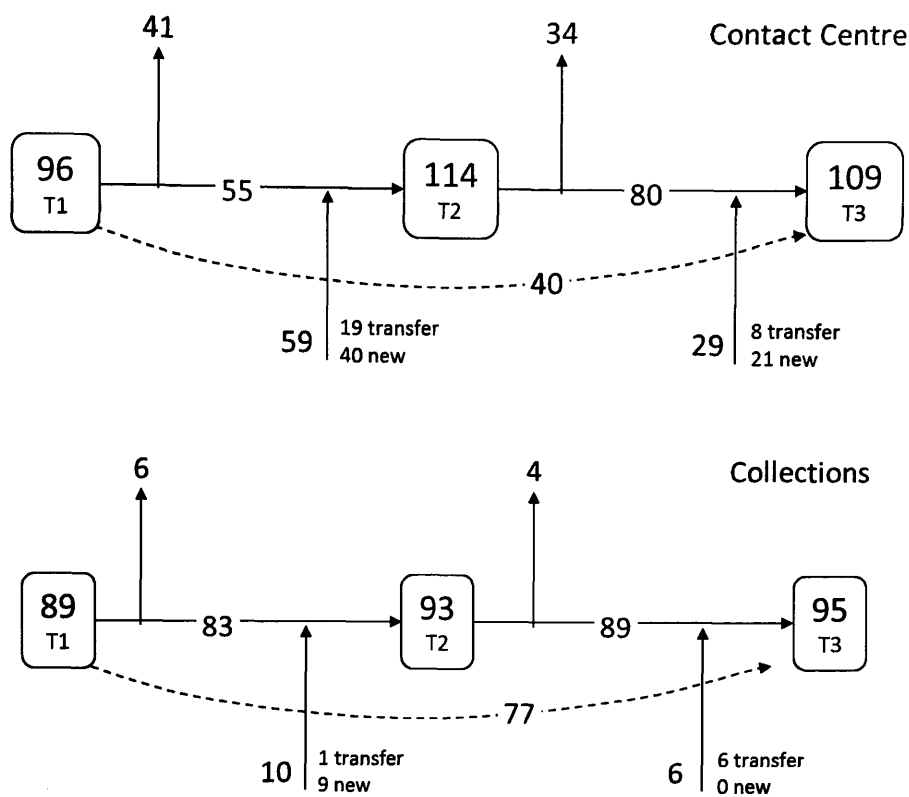


Figure 17 – Intervention CRMs sample comparison (T1-T2-T3)

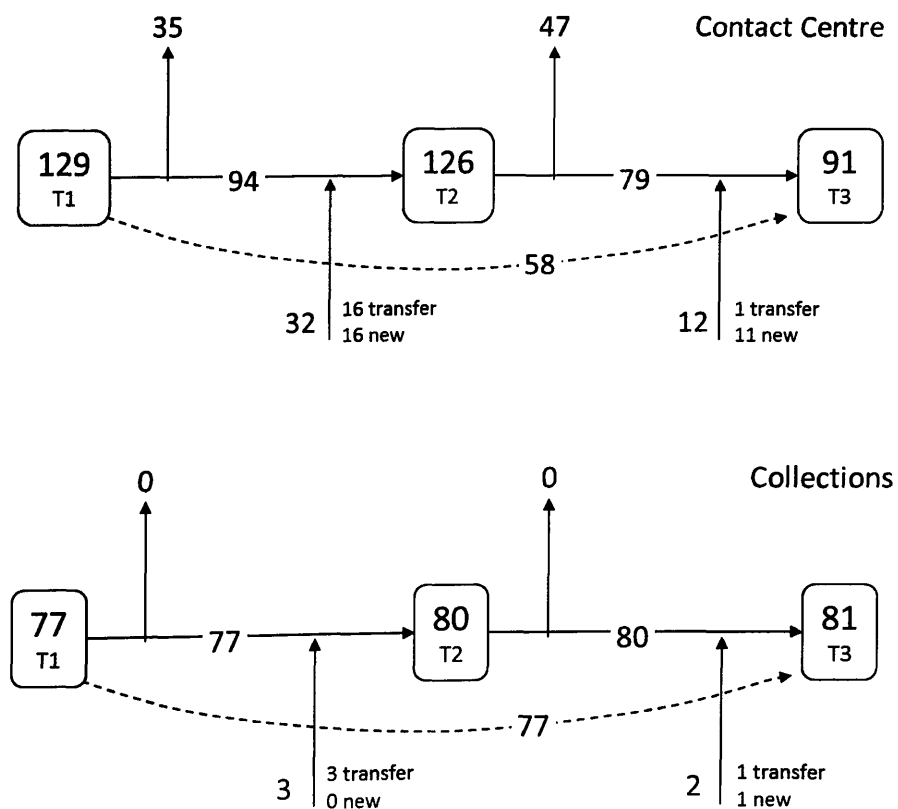


Figure 18 – Control CRMs sample comparison (T1-T2-T3)

5.5 Qualitative Methods

5.5.1 Training Evaluation

To evaluate the management training, participants at the pilot sessions and the intervention group sessions completed an evaluation form at the conclusion of the session, see Appendix 5. The form provided the opportunity for participants to provide qualitative feedback on a range of aspects of the session. It also included a quantitative question to determine participant satisfaction using the Net Promoter Score (NPS). NPS, developed by Reicheld (2003) uses a single item question, shown in figure 19, relating to how likely the respondent is, on a scale of 1 to 10, to recommend a product or service to a friend or colleague, see figure 1. Respondees scoring 9 or 10 are considered to be *promoters*, those scoring 7 or 8 are *passive*, with those scoring 6 or less considered to be *detractors*. The overall NPS is calculated by deducting the overall percentage of detractors from the overall percentage of promoters.

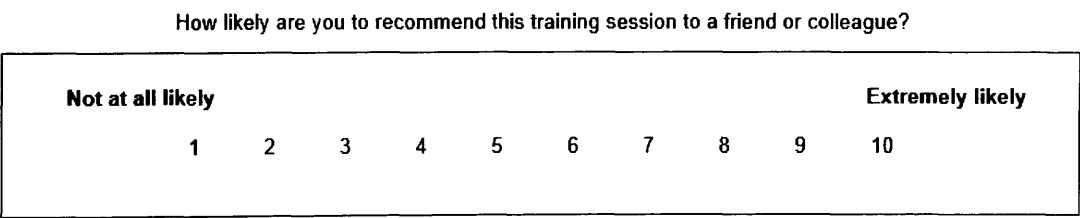


Figure 19 – Net Promoter Score Question

Although NPS was developed primarily for assessing customer loyalty in a retail environment it has been used in a variety of other sectors for a range of customer experiences. A number of studies have found evidence of its value as an indicator of customer satisfaction (e.g. Farooqi and Rehmaan, 2010, Garrity, 2010, Merrick, 2009) although others have found the evidence mixed (e.g. Keiningham et al., 2008, Keiningham et al., 2007, Sharp, 2008). As a measure it complements qualitative measures in helping assess the effectiveness of management training and is simple to administer and evaluate. As a practitioner tool, benchmarking data for NPS is available from a number of commercial organisations. For example SurveyMonkey (2016) collected data from across a range of sectors, showing a mean NPS of 31%, with 55% of

respondee being promoters, 21% passive, and 24% detractors. Similarly Temkin's consumer quarterly consumer report (2015) shows a range of mean NPS scores across sectors from consumer products to retail services of -1% to 40%. For this study NPS was used to compare the experience of participants in the pilot group and intervention training.

There was evidence from the training evaluation forms that managers had a positive experience of the training session. The Net Promoter Score for the managers' session was 60% (9 promoters, 6 neutral, 0 detractors). This compares with 65% (13 promoters, 7 neutral, 0 detractors) for the pilot group. The qualitative comments on the evaluation forms were all positive, providing strong evidence that managers valued the training and obtained sufficient knowledge to implement the SRA with their team.

"Good session – useful tools and ideas to discuss stress within the team environment."

Charlotte, Team Manager, Collections

"A very good tool to take into my team meetings." Jon, Team Manager, Contact Centre

"Enjoyed it and learnt something which can easily be put into practice." Derek, Team Manager, Collections

5.5.2 Focus Groups

Focus groups were undertaken near the end of the second micro implementation cycle prior to the final structured survey at T2, with CRMs and team managers taking part in separate groups. For the CRM groups a purposive sample of participants was randomly selected from a list of intervention group CRMs present at T1, T2 and T3. This was done in conjunction with ServiceZone's resource planning team as CRMs had to be scheduled off the phones in order to be made available. Six focus groups were planned to provide sufficient data to achieve theoretical saturation in any emerging themes. Six participants were invited to each focus group, with 3 invited from each department to facilitate comparison of their experiences. Of the 36 invited to participate, 28 attended representing a 78% participation rate. The gender balance of the focus groups (68% female, 32% male) closely resembled that of the wider sample from which participants and been selected (71% female, 29% male).

Table 3 – Job Type and Departmental Profile of Focus Groups (n=39)

Group	Job Type	Contact Centre	Collections	Participants
1	CRMs	0	3	3
2	CRMs	3	2	5
3	CRMs	2	2	4
4	CRMs	2	3	5
5	CRMs	3	3	6
6	CRMs	2	3	5
7	Team Managers	0	4	5
8	Team Managers	3	0	6
9	Team Leaders	1	1	5
Total		16	23	39

Two focus groups were run for team managers, with all participating managers invited to attend. Separate groups were run for each department with attendance lower due to manager availability. A final focus group was run with the Team Leader of Collections and the Team Leader of Contact Centre. Prior to the start of each focus group all participants gave informed written consent to participate in the study.

Focus group data collection allowed participants to share experiences and draw out the diverse, shared and contrasting opinions. A semi-structured approach was chosen to ensure that the discussion was open and interactive, yet remained loosely guided to ensure it did not move into irrelevant areas (Finch and Lewis, 2003). The groups were facilitated and moderated by myself using a pre-prepared script (see Appendix 6). At the start of the session I introduced the purpose of the focus group, explained the nature of participants, discussed confidentiality, and confirmed the participants had read the information sheet and completed the consent form (see Appendix 7).

Each focus group was structured in three sections (Finch and Lewis, 2003), firstly participants were asked to introduce themselves, say how long they had worked for ServiceZone, explain what they most enjoyed about their job, and what they enjoy least about their job. This allowed participants to start the focus group talking about something they were comfortable with, and provided immediate comparison with working life in the Contact Centre in comparison with Collections. The themes that emerged in the introduction were then explored through a series of probing questions that focussed the discussion on their experience of the SRA, their involvement in completing it, and how they felt it identified and actioned issues that were important to them. The questions then widened the discussion to consider the relationship they had with their manager, the level of understanding the manager had about their work, and the level of involvement they had in decisions that affect them. As the focus groups occurred after the adverse weather events, participants were then asked how these events had affected them. Following each focus group an interim data analysis based on my notes was undertaken, refining the question set to reflect newly emerging themes that could be explored further in subsequent

groups (Miles and Huberman, 1994). Finally the focus group concluded with a brief summary and asked if there was anything the participants would like to add to what had already been discussed. The next steps were outlined and the participants were thanked for their time. This process was repeated for the Team Manager and Team Leader focus groups which took place after the CRM focus groups. This allowed the emerging themes from the CRM groups to be explored with the Team Manager. The focus groups took between 32 and 53 minutes (M=40m27s), with each being audio recorded and transcribed verbatim. Following transcription the participants' identities were anonymised through the allocation of pseudonyms to protect their confidentiality.

5.5.3 Intervention Exposure

A measure of intervention exposure was included in the structured survey provided to the intervention group participants at T2 and T3. Randall et al (2005) suggest including measures that examine the active ingredient of the intervention. For interventions that are designed to actively engage participants, for example through training or consultation, this means measuring levels of *involvement*. For interventions where participant engagement is more passive, for example through information provision or redefining roles, this means measuring levels of *awareness*. The SRA process potentially had both active and passive engagement depending on the actions identified, as such measures of both awareness and involvement were included in the survey, adopting a single question for each (e.g. Escoffery et al., 2009, Randall et al., 2005). For awareness: has your Team Manager completed a stress risk assessment for the team you work in? (1 – Yes, 2 – No, 3 – Not sure). For involvement: did your Team Manager actively involve you in completing the stress risk assessment? (1 – Yes, 2 – No, 3 – Not sure).

5.5.4 Email Correspondence, Meeting Notes and SRA Documentation

To provide a comprehensive picture of the study's action research processes through the macro and micro implementation cycles, all the information generated by the study was retained for inclusion in the qualitative analysis. An important source of qualitative data describing the intervention's process was the email correspondence with the leadership team, HR team and the

team managers and participants. In total 368 emails were retained and collated for qualitative analysis. In addition the handwritten notes of meetings held throughout the study were included in the analysis. These included initial scoping meetings with the leadership team, meetings with team leaders to develop the research design, and action research cycle review meetings with team managers to collate feedback on intervention implementation.

Copies of the SRA documentation were obtained from team managers at the end of the first and second micro implementation cycles, these too were included in the qualitative data analysis. Examples of completed SRA documentation can be seen in Appendix 22. Finally the free text comments from the training session evaluation forms were included, along with the training materials from the session.

Part 4

observe

- 1. notice or perceive something and register it as being significant

Chapter 6 – Data Analysis

Having established the research design and detailed methods for data collection, the data analysis techniques for both quantitative and qualitative data could then be determined.

6.1 Quantitative Data Analysis

6.1.1 Data Management, Screening and Cleansing

Following the completion of the third survey, data from all three surveys was case matched using the participant ID numbers, ensuring survey responses from each data collection point were matched to the same participant. Each participant was then categorised by whether they had been present between first and second collection points (T1-T2), the second and third collection points (T2-T3), or present at all three collection points (T1-T2-T3). The data was cleansed to remove participant IDs that had no survey responses and those that had failed to complete the survey after a small number of questions.

Scores were computed for the work stressor variables, first by reversing the responses for the negatively phrased HSE-25 questions 1, 2, 7, 11, 13 and 14, then computing mean response from the question groupings for each variable (Edwards et al., 2008, Edwards and Webster, 2012). For psychological wellbeing the total GHQ-12 score was calculated using the 0-0-1-1 caseness scoring system (Goldberg and Williams, 1988). For psychological wellbeing, a threshold GHQ-12 score of 4+ was used to identify participants with probable mental ill-health ('poor psychological wellbeing'), with a score of 0-3 identifying a case with no mental ill-health or less than optimal psychological wellbeing ('good psychological wellbeing'). This threshold was the same as that used in the Health Survey of England population survey (Health and Social Care Information Centre, 2013). The same caseness scoring system was used to calculate the Non-work Stressor score for the additional 3 questions included in the survey. From initial analysis of the Non-work Stressor caseness data at T1 (see table 4) a threshold of 2+ was used to identify individual cases with non-work stressors present, equating to 18.6% of participants at T1.

Table 4
Distribution of Non-work Stressor Caseness at T1

Caseness Score	N (%)
0	161 (62.4)
1	49 (19.0)
2	32 (12.4)
3	16 (6.2)

6.1.2 Descriptive Data

A preliminary analysis was undertaken to provide insight into the survey responses. Frequency and descriptive statistics were produced for participants working in the Contact Centre and Collections within the Intervention and Control Groups. This provided sample demographic characteristics relating to job type, age, working hours and gender, together with mean, standard deviation, skewness and kurtosis values relating to the key variables. These data were used to assess the distribution of the distribution of the scores for the continuous variables in relation to their suitability for use in parametric statistical techniques. A full list of variables is included in Appendix 12

The demographic data for the samples is presented in Appendix 13 table 38 for all survey respondents at each survey point T1, T2 and T3. Segmented by participants working in both the Contact Centre and Collections between the Intervention Group and Control Group, this highlights a number of similarities and contrasts between the four groupings. The profile of job types shows around 80% of participants were CRMs, with little variation across the three time points. In contrast the Contact Centre employed a higher proportion of younger employees, the majority being in the 16-34 age grouping, than the Collections department where the majority of employees are in the 25-44 age grouping. Furthermore, from the analysis of participant mean age, shown in Appendix 13 table 39, it can be seen that participants in the Control group were

older than their colleagues in the Intervention Group, by 3.9 years in the Contact Centre at T1, and by 4.8 years in Collections.

A higher proportion of employees in Collections were female, in both the Intervention group (82.1% at T1) and Control Group (75.0% at T1) than in the Contact Centre (51.9% and 63.9%).

A similar proportion of employees in the Intervention and Control Groups in Collections had full-time working hours (64.2% and 64.7% at T1). However in the Contact Centre, a higher proportion of employees in the Control Group worked full-time (79.2%) than in the Intervention Group (51.9%).

The sample could therefore be described as being broadly homogenous, but with some notable differences, particularly regarding age and gender that would need to be considered in the data analysis.

6.1.3 Prevalence of Poor Psychological Wellbeing

An initial review of the prevalence of poor psychological wellbeing (GHQ-12 = 4+) in table 5 showed no pattern between any of the study groups or between departments. However comparison of prevalence by gender with population scores for the Yorkshire and Humber region (Health and Social Care Information Centre, 2013) where the call centre is located showed a much higher prevalence of poor psychological wellbeing than in the general population. Prevalence in male participants was in the range 35.0-39.2% compared with 12% in the local population. Prevalence in female participants was in the range 31.5-38.7% compared with 22% in the local population.

6.1.4 Prevalence of Non-work Stressors

An initial review of the prevalence of non-work stressors (Non-work Stressor Indicator = 2+) in table 6 shows no pattern between any of the study groups, between departments or for gender.

Table 5
Prevalence of Good and Poor Psychological Wellbeing

Grouping	<i>n (%)</i>					
	<i>Good Psychological Wellbeing (GHQ12 = <4)</i>			<i>Poor Psychological Wellbeing (GHQ12 = 4+)</i>		
	T1	T2	T3	T1	T2	T3
Overall sample	165 (65.2)	167 (67.3)	143 (63.0)	88 (34.8)	81 (32.7)	84 (37.0)
Intervention group	69 (59.0)	86 (66.7)	69 (57.5)	48 (41.0)	43 (33.3)	51 (42.5)
Control group	96 (70.5)	81 (68.1)	74 (69.1)	40 (29.5)	38 (31.9)	33 (30.9)
Contact Centre	79 (64.8)	84 (62.2)	70 (61.9)	43 (35.2)	51 (37.8)	43 (38.1)
Collections	86 (61.0)	83 (73.4)	73 (64.0)	55 (39.0)	30 (26.6)	41 (36.0)
Intervention Group						
Contact Centre	27 (51.9)	44 (62.9)	34 (54.0)	25 (48.1)	26 (37.1)	29 (46.0)
Collections	42 (64.6)	42 (71.2)	35 (61.4)	23 (35.4)	17 (28.8)	22 (38.6)
Control Group						
Contact Centre	52 (74.3)	40 (61.5)	36 (72.0)	18 (25.7)	25 (38.5)	14 (28.0)
Collections	44 (66.7)	41 (75.9)	38 (66.7)	22 (33.3)	13 (24.1)	19 (33.3)
Female	117 (67.2)	115 (68.5)	95 (61.3)	57 (32.8)	53 (31.5)	60 (38.7)
Male	48 (60.8)	52 (65.0)	36 (64.3)	31 (39.2)	28 (35.0)	20 (35.7)

Table 6
Prevalence of Non-work Stressors Present

Grouping	<i>n (%)</i>					
	<i>Non-work Stressors Absent (Non-work Stressor Indicator = <2)</i>			<i>Non-work Stressors Present (Non-work Stressor Indicator = 2+)</i>		
	T1	T2	T3	T1	T2	T3
Overall sample	210 (81.4)	198 (77.0)	175 (75.8)	48 (18.6)	59 (23.0)	56 (24.2)
Intervention group	96 (80.0)	105 (78.4)	91 (75.2)	24 (20.0)	29 (21.6)	30 (24.8)
Control group	114 (82.6)	93 (75.6)	84 (76.4)	24 (17.4)	30 (24.4)	26 (23.6)
Contact Centre	101 (81.5)	101 (72.7)	85 (74.6)	23 (18.5)	38 (27.3)	29 (25.4)
Collections	109 (81.3)	97 (82.2)	90 (76.9)	25 (18.7)	21 (17.8)	27 (23.1)
Intervention Group						
Contact Centre	42 (77.8)	53 (72.6)	45 (71.4)	12 (22.2)	20 (27.4)	18 (28.6)
Collections	54 (81.8)	52 (85.2)	46 (79.3)	12 (18.2)	9 (14.8)	12 (20.7)
Control Group						
Contact Centre	59 (84.3)	48 (72.7)	40 (78.4)	11 (15.7)	18 (27.3)	11 (21.6)
Collections	55 (80.9)	45 (78.9)	44 (74.6)	13 (19.1)	12 (21.1)	15 (25.4)
Female	146 (82.0)	134 (76.1)	127 (78.9)	32 (18.0)	42 (23.9)	34 (21.1)
Male	64 (80.0)	64 (79.0)	39 (69.6)	16 (20.0)	17 (21.0)	17 (30.4)

6.1.5 Assessing Normality

Prior to selecting appropriate statistical techniques, a number of tests were undertaken to assess the normality of the data. Skewness (γ_1) and Kurtosis (β_2) values for each variable, contained in Appendix 13 tables 40-43, indicate the shape and symmetry characteristics of the normality of the distribution for each variable. Together with the Normal Distribution Histograms and Normal Q-Q Plots, contained in Appendix 13 figures 31-37, for data collected at T2, it can be seen that all the variables apart from Relationships had a fair degree of normality. Taking this analysis into account when considering whether to select parametric or non-parametric tests Field (2013) recommends a number of possible ways to reduce potential bias, particularly bootstrapping, in order to utilise the more powerful range of parametric statistical techniques, arguing that in general it is better to use robust tests than their non-parametric equivalents. Similarly Pallant (2013, p116) suggests that most of the parametric tests 'will tolerate minor violations of assumptions, particularly if you have a good sample size'. In particular t-tests and ANOVA are believed to be robust to violations of normality in the sense that the validity of the statistic is not damaged (Morgan et al., 2013).

The nature of the two HSE-25 questions comprising Relationships relate to extreme aspects of working relationships, namely harassment and bullying. This is illustrated by the Normal Distribution Histogram in Appendix 13 figure 35 that shows the large majority of participants scoring positively against this variable, indicating no concerns with this stressor.

6.1.6 Comparison with Work-related Stress Normative Data

Edwards and Webster (2012) analysis of HSE-25 data obtained from 137 organisations (N=67,347) provides means, standard deviations and percentiles (see table 7) allowing comparison of the study's findings with those obtained across the public and private sector organisations in that sample. As such, if a score was at the 75th percentile it would show that the score was as good or better than the score obtained by 75% of the organisations in the sample. This comparison shows that for the most of the standards the study group participants generally score above the 95th percentile for Demands, Manager Support, Peer Support, Role and Change and for Relationships they generally score above 90th percentile. However the scores for Control are generally below the 5th percentile. This implies that on the whole psychosocial working conditions generally compare favourably with the organisations in the normative sample, with the exception of Control where the comparison is very unfavourable.

Table 7
Comparison of Work-related Stress with Edwards and Webster (2012) Normative Data at T1

	Demands	Control	Manager Support	Peer Support	Relationships	Role	Change
Normative Data							
<i>M</i>	3.36	3.43	3.46	3.77	4.22	4.08	3.03
<i>SD</i>	0.26	0.28	0.23	0.15	0.61	0.19	0.28
<i>Percentiles</i>							
5	2.81	2.93	3.06	3.48	3.48	3.73	2.54
10	3.06	3.13	3.14	3.55	3.92	3.85	2.66
25	3.26	3.31	3.33	3.67	4.20	3.98	2.86
50	3.36	3.44	3.48	3.79	4.34	4.09	3.04
75	3.50	3.59	3.63	3.87	4.48	4.18	3.20
90	3.62	3.73	3.73	3.95	4.60	4.31	3.35
95	3.77	3.84	3.78	3.99	4.69	4.36	3.44
Intervention Group (Contact Centre)							
	3.74	2.19	3.89	4.02	4.67	4.31	3.21
Intervention Group (Collections)							
	4.03	2.76	3.72	4.08	4.48	4.33	3.21
Control Group (Contact Centre)							
	3.77	2.24	3.88	4.04	4.76	4.40	2.97
Control Group (Collections)							
	4.28	3.18	3.88	4.01	4.60	4.45	3.54

6.1.7 Scale Reliability

Reliability tests were undertaken for the two principle scales used in the study, HSE-25 and GHQ-12, in addition to the 3-item Non-work Stressor Indicator developed in this study. The tests were undertaken for each of the three data collection time points, see table 8. For HSE-25 this compares with the Cronbach's Alpha reliabilities reported by Edwards and Webster (2012) for the seven factors of .85, .83, .89, .82, .82, .82 and .81. For GHQ-12 this compares with the Cronbach's Alpha reliability reported by Goldberg and Williams (1988) of .85. Whilst no comparable reliability is available for the Non-work Stressor Indicator the achieved values are above the level of .70 that is considered acceptable, and close the preferable level of .80 (Pallant, 2013).

Table 8

Scale Reliability for HSE Indicator Tool, General Health Questionnaire, and Non-work Stressor Indicator

Scale	N of items	Cronbach's Alpha		
		T1	T2	T3
HSE-25				
Demands	4	.76	.73	.70
Control	4	.88	.90	.91
Manager Support	5	.89	.89	.92
Peer Support	4	.85	.86	.86
Relationships	2	.80	.82	.72
Role	3	.80	.79	.82
Change	3	.76	.82	.81
GHQ-12	12	.92	.93	.94
Non-work Stressor Indicator	3	.74	.79	.79

6.1.8 Statistical Test Selection

The hypotheses required the use of statistical tests to compare variables between groups, within groups over time, and compare the relationships among the variables themselves. A number of common assumptions regarding the data were considered prior to test selection:

- *Level of measurement.* All the measurement variables are either interval or continuous.
- *Independence of observation.* All the survey responses were submitted individually to ensure that each set of responses is independent of any other.
- *Normality* - scores should be normally distributed. As has been discussed for the measures used in this study there is a degree of variation of the level of normality. Pallant (2013) advises that most of the parametric techniques are robust enough to tolerate this violation particularly sufficient large sample sizes (>30). Parametric tests have been commonly used in other studies for both GHQ-12 (e.g. Lilley et al., 2011, Morres et al., 2011, Mulligan et al., 2012) and HSE-25 (e.g. Houdmont et al., 2012, Marcatto et al., 2016, Ravalier et al., 2013) with authors not reporting any problems.
- *Homogeneity of variance* – to ensure that the variability of responses for each group is similar, Levene's test for equality can be assessed for a variety of techniques.
- *Linearity* – test exploring the relationship between variables, the relationship should be linear.

For each of the hypotheses, consideration was given to the questions that a statistical test would have to answer to prove or disprove the hypothesis, the independent, dependent and controlling variables required to achieve this. As such a combination of independent sample t-tests, paired sample t-tests, mixed between-within groups ANOVA, and linear regression analyses were used to examine the hypotheses. The lack of a normal distribution for the Relationships variable, evidenced by the high skewness and kurtosis values, considered together with the comparison with the 90th percentile values in the normative data lead to this value being excluded from the statistical analysis. This echoes a concern identified by Houdmont et al (2013) that the short-form version of the HSE Indicator tool omits items that reflect different aspects of working

relationships, leaving questions relating to a narrower aspects of working relationships; bullying and harassment.

Given that the Non-work Stress Indicator was developed for this study, a check of multicollinearity was undertaken between the three questions. This is particularly important for predictor variables used in linear regression analyses. The analysis in table 9 shows that questions do not correlate very highly ($<.80$), providing an indication that multicollinearity did not exist in the Non-work Stress Indicator (Field, 2013). Other collinearity checks were undertaken using the VIF and tolerance statistics produced in SPSS regression analyses.

Table 9
Intercorrelations Between Three Questions Comprising Non-work Stress Indicator

Measure	1	2	3
T1			
1. Have you recently felt you can't cope with issues in your personal life?	-		
2. Have you recently felt issues away from work are affecting your health?	.62**	-	
3. Have you recently thought that coming to work is an escape from personal issues?	.46**	.39**	-
T2			
1. Have you recently felt you can't cope with issues in your personal life?	-		
2. Have you recently felt issues away from work are affecting your health?	.72**	-	
3. Have you recently thought that coming to work is an escape from personal issues?	.52**	.42**	-
T3			
1. Have you recently felt you can't cope with issues in your personal life?	-		
2. Have you recently felt issues away from work are affecting your health?	.75**	-	
3. Have you recently thought that coming to work is an escape from personal issues?	.44**	.46**	-

** $p < .01$

6.1.9 Statistical Test Performance

The statistical tests were performed in SPSS version 22, with a full syntax and output files retained for future reference. The full syntax for the tests run is included in Appendix 15. Each test was numbered in relation to the hypothesis it was testing, in total 245 separate tests were undertaken and documented, with the full index of tests included in Appendix 16. For each test a series of checks were made to check assumptions and assess the significance of the results (Field, 2013, Leech et al., 2015, Morgan et al., 2013, Pallant, 2013).

6.2 Qualitative Data Analysis

The qualitative data analysis was undertaken using thematic analysis (Ritchie et al., 2003) as it incorporated the variety and volume of qualitative data generated by action research. This was guided by the five-step process offered by Pope (2000) of familiarisation, development of the thematic framework, followed by coding, charting, and mapping and interpretation.

6.2.1 Familiarisation

During the process of transcript checking, notes were taken on key ideas and common themes that were being discussed. In particular the contrast in the working experiences of participants working in Collections and in the Contact Centre was apparent at this early stage of the analysis. Once transcribed, checked and anonymised the transcripts were loaded into NVivo10 qualitative analysis software. Auto-coding was used to code each participant's focus group contribution to their respective case node. A number of participants' characteristics were defined in the case node, including gender, department, job type, and manager.

6.2.2 Thematic framework

Before the transcript coding began, a priori thematic framework was formed. The starting point for the framework was the six Management Standards that structured the SRA, with the considering factors identified in the SRA created as sub-codes within the structure. NVivo refers to these codes as nodes, allowing anything to be created as a node and then analysed and reported by it. Additional nodes were added following the transcript familiarisation process, for

example average handling time, call quality, adverse weather and customer satisfied within the Demands node. Added to this were a series of nodes that identified the emotion contained in the participant's contribution, whether it was positive, negative, mixed or neutral (Bazeley and Jackson, 2013). Finally the participants' awareness and involvement with the SRA was added to the framework. The first iteration of the thematic framework can be seen in table 97 in Appendix 25.

6.2.3 Coding

The thematic framework was applied to the qualitative data using the coding process in NVivo. The focus group transcripts were coded in chronological order, with passages of text, phrases, and sentences coded to appropriate thematic nodes as well as a corresponding emotion. As the coding progressed the thematic framework was iterated and restructured as emerging themes were identified. Nodes and sub-nodes were added, separated and merged accordingly as the framework began to reflect the focus group discussions (Bryman, 2008). Theoretical saturation, indicated by the creation of no new thematic nodes, appeared to be achieved after four of the six CRM focus groups. The first three focus groups were then revisited to re-code content according to the final coding framework.

Once the focus group coding was complete, the remaining qualitative data sources such as the emails, meeting notes, and SRA documentation were loaded into NVivo and coded to the same thematic coding framework. A number of additional coding structures were also added to the framework to capture additional information relating to the intervention process and action research cycles. The SRA documentation was coded as to the strength of evidence of the action research cycles for each of the SRA's stages. This reflected the need to capture the varying standard of completion evident in the documents. The Net Promoter Score outcome from the training evaluation was coded along with level of the participant's positivity and action intentions.

Each qualitative data was then coded as to its position in the action research cycles. Firstly, each item was coded as being related to either action or research. Then from a timeline perspective

it was coded as to whether it occurred in the pre-T1 macro action research cycle, in the T1-T2 or T2-T3 micro action research cycles, or in the post-T2 time period. Finally it was coded to which element of the action research cycle it related to; diagnose, plan, act, observe or reflect. The final thematic coding framework can be seen in table 98 in Appendix 25. An example coded transcript is included in Appendix 16.

6.2.4 Charting

Once coding was complete the data was charted using two techniques in NVivo10 to help identify the patterns, clusters and linkages in the data (Ritchie et al., 2003). First, coding matrices (Appendix 17, figure 38) were used to examine the profile of the codes in relation to their being positive or negative. This allowed a number of initial emerging themes to be identified in the data: staff turnover, manager support, performance management, participation, peer support and adverse weather. Within these themes a number of prominent nodes were identified, colloquially referred to me in my analysis as hot nodes. Working between the hot node mapping and the coding matrices highlighted at an early stage the difference in emerging themes from the experience of participants working in the Contact Centre (Appendix 17, figure 39) and those working in Collections (Appendix 17, figure 40). The second stage was to triangulate these emerging themes using the NVivo cluster analysis tool. Cluster analysis is a quantitative analysis technique that considers word similarity across a range of sources, and as such its application to qualitative data should be treated with care (Bazeley and Jackson, 2013). However it provides a useful tool to help visualise the data and provide an overview of its structure (Guest and Mclellan, 2003) and 'is best used in an exploratory manner, to provoke ideas, rather than as an explanatory evidence of association' (Bazeley and Jackson, 2013, p.237). In this study the cluster analysis assisted the triangulation of the hot node mapping derived from the coding matrices, confirming fundamental differences in the nodes structures between the Contact Centre (Appendix 17, figure 41) and Collections (Appendix 17, figure 42). As a result the hot node mapping was iterated over a number of versions as the coding matrices, cluster analyses and hot node mapping were revisited (see Appendix 17, figures 43-45).

6.2.5 Mapping and Interpretation

With the hot node mapping confirmed, a series of framework matrices were constructed in NVivo to provide cross-case analysis, mapping the participants' data across to the emergent themes. This allowed common patterns to be established, as well as contrasting opinions, that together provided a new level of understanding and insight into the data (Bazeley and Jackson, 2013). This approach allowed individual comments and opinions coded to each group of thematic nodes to be compared and contrasted, summarised, and memorable quotations identified (Silverman, 2010). Framework matrices were created for each theme for the Contact Centre (Appendix 17, figure 46) and Collections (Appendix 17, figure 48) separately. From these a narrative interpretation was created for each theme, then compared and contrasted with other themes and between departments (Appendix 17, figures 47 & 49).

6.2.6 Further Qualitative Analysis

With every qualitative data coded accordingly to its place in an action research cycle, coding matrices were produced in NVivo to map the activity density within each of the cycles (Appendix 17, figure 50). This contributed to the process evaluation, triangulating with other sources, such as email correspondence and focus group feedback on the adverse weather impact, to provide a complete picture of the intervention implementation. Complementing this analysis was detailed qualitative analysis of the SRA documentation using coding matrices and cluster analysis to determine each manager's level of implementation with their team. This involved examining sources of data for each manager (Appendix 17, figures 51-54); the evidence of SRA process compliance in terms of completion, strength of evidence and ratings given; relevance of issues identified in the SRA documentation in comparison with focus group node mapping; and a cross-check back to the original documentation. The results provided an indication of how effectively each manager had implemented the SRA, and as such the level of exposure participants might have had to the intervention.

6.3 Data Synthesis

With the quantitative and qualitative data analysis undertaken in parallel, a process of data synthesis was undertaken to help provide a complete picture of the intervention’s implementation and outcomes. The aim of the synthesis was to develop emergent theory from the study’s findings. The synthesis process was guided by Bryman’s views on integrating quantitative and qualitative data within a social research setting (Bryman, 2006, Bryman, 2008) which provides a basis for considering the relationship and interaction between qualitative and quantitative data in a mixed methods study, illustrated in figure 20.

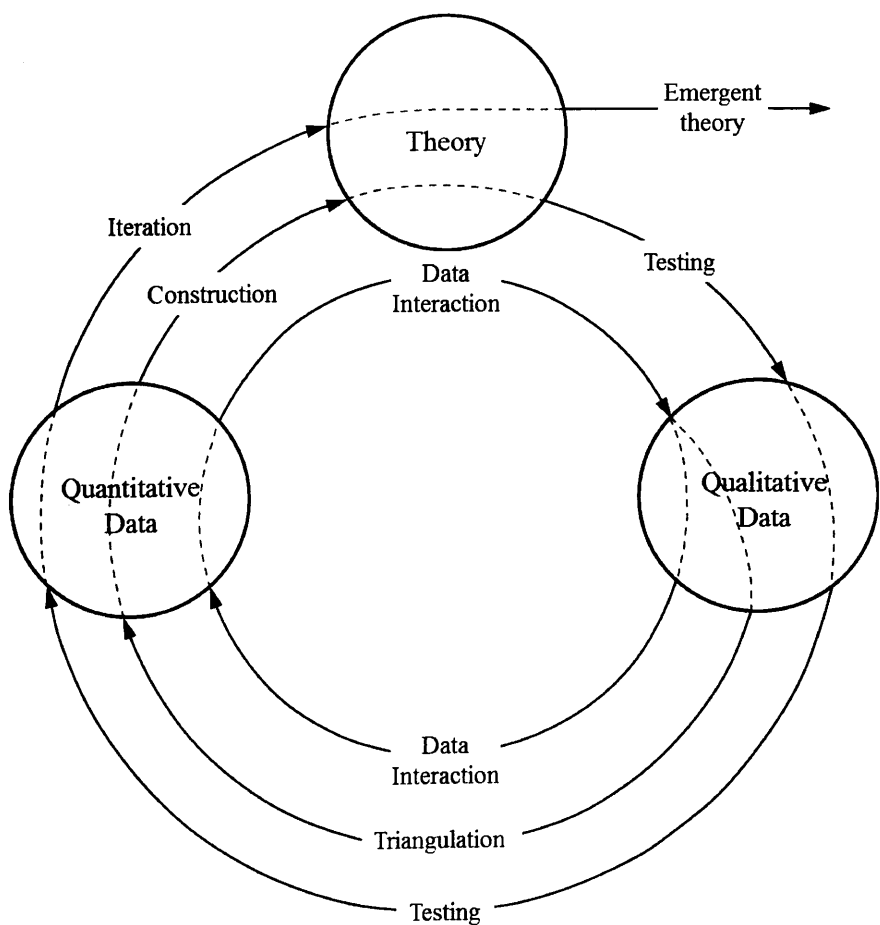


Figure 20 – Qualitative and Quantitative Data Synthesis Model
(adapted from Bryman, 2006, Bryman, 2008)

6.3.1 Data Interaction

The first stage, as both data sets were beginning to be analysed, was to share the learning from the initial familiarisation, thereby allowing the data sets to interact. For example the apparent difference in working environment between the Contact Centre and Collections that emerged from the focus group transcript familiarisation was then explored in the initial descriptive analysis of the structured survey data.

6.3.2 Triangulation

As data analysed progressed, the data sets were used to triangulate findings found in one set with findings from another. For example, where the independent-samples t-tests highlighted differences in mean scores between groups, separate coding matrices and cluster analyses were constructed to examine any differences in qualitative data.

6.3.3 Construction

As the results of the quantitative and qualitative analysis came together, a number of theories began to be constructed. These were guided by the hypotheses and research question, for example a theory relating to the influence of non-work stressors on participants' psychological wellbeing was influenced by the results of the statistical tests undertaken as part of the outcome evaluation, and by the team managers' contributions to the focus groups in the process evaluation.

6.3.4 Testing and Iteration

As a theory was formed, it was tested by referring it back to the original data sets. For example where paired-samples t-tests indicated a relationship between variables over time, the qualitative data was used to test the theory from a different perspective, for instance by examining the change in qualitative data through the action research cycles. As each theory was tested, it was then iterated and fine-tuned to reflect the testing outcomes.

6.3.5 Emergent Theory

With the theory tested and iterated, it then emerged from the synthesis, supported by data that both verified the outcome and explained the process through which it was it had been derived.

6.4 Further Hypotheses

In the early stages of the data analysis, informed by both quantitative and qualitative data analysis, it became apparent that there was a notable difference in working environment between the Contact Centre and Collections. This prompted a review of the initial hypotheses to reflect the different working conditions, with two additional hypotheses developed to expand on hypotheses 1 and 2 respectively:

Hypothesis 1a – Work-related stress will be higher in Contact Centre employees than in Collections employees.

Hypothesis 2a - Psychological wellbeing will be lower in Contact Centre employees than in Collections employees.

6.5 Additional Research Question

From the early stages of the focus group transcript familiarisation it became apparent that social support was an important factor for participants in both the Contact Centre and in Collections. In particular a number of early themes relating to support from peers, isolation from peers, and manager support for both work and non-work stressors could be identified. To formally capture these in the qualitative data analysis an additional research question was developed:

How does social support from managers and peers influence the ability of call centre employees to cope with the pressure of their work?

Chapter 7 - Results

The quantitative and qualitative results of the data analysis are structured as to how they test the hypotheses and answer the research question. The findings are then synthesised to assess the effectiveness of the intervention and finalise the study’s theoretical model.

7.1 Quantitative Results

The results of the statistical tests undertaken were collated and referenced to the particular hypothesis to which they were testing to provide a cohesive reporting structure. Given the number of variables relating to each hypothesis, results are presented in tabular format (Nicol and Pexman, 2010).

7.1.1 Intervention Exposure

The two survey questions testing intervention awareness and involvement were combined using a caseness scoring system, where participants scored positively against both questions, to determine whether participants present at T1-T2-T3 had been exposed to the intervention (see table 10). The results show a large drop off of exposure from T1 to T2 which suggests the second cycle of the SRA was not implemented as effectively as the first cycle. These findings were used to enable segmentation according to intervention exposure, and synthesised with the qualitative findings to provide a comprehensive view of intervention exposure and process effectiveness.

Table 10
Participants Exposed to Intervention at T1 and T2 (T1-T2-T3 sample)

Intervention exposure	n (%)	
	T1 (n=122)	T2 (n=55)
Yes	89 (73.0)	24 (43.6)
No	33 (27.0)	31 (56.4)

7.1.2 Sample Drop Outs

Independent sample t-tests were undertaken to examine the difference in work-related stress, psychological wellbeing and non-work stressor scores between participants who remained in the sample at T2 and T3 and those who dropped out before each respective time-point (see table 11). This analysis showed that participants who dropped out prior to T2 had significantly lower scores for Demands and Control at T1 in comparison with those that remained in the sample. Those that dropped out prior to T3 had a significantly lower score for Control at T2 in comparison with those that remained in the sample. The magnitude of the association indicates a small to moderate large effect size for Demands/Control (T2) and Control (T3) for participants that dropped out of the sample.

There were no significant differences in the scores for the other stressors, for psychological wellbeing or for non-work stressor score.

Table 11

Group Differences in Work-related Stress and Psychological Wellbeing and Exposure to Non-work Stressors Between Study Participants and Drop Outs at T2 and T3

Variable	Participants			Drop Outs			t	df	p	η^2	95% CI ^a	
	M	SD	N	M	SD	N					Lower	Upper
T2 Drop Out Point												
Demands (T1)	4.03	0.74	237	3.23	1.03	20	-3.42	21	.003	.04	-1.25	-.37
Control (T1)	2.67	1.04	237	1.88	0.94	20	-3.31	255	.001	.04	-1.21	-.34
Manager Support (T1)	3.87	0.93	237	3.56	1.11	20	-1.41	255	.160	.01	-.85	.19
Peer Support (T1)	4.06	0.73	237	3.79	0.96	20	-1.25	21	.227	.01	-.71	.14
Role (T1)	4.40	0.69	237	4.10	0.94	20	-1.40	21	.177	.01	-.78	.14
Change (T1)	3.26	0.94	237	2.90	1.21	20	-1.29	21	.211	.01	-.91	.20
Psychological Wellbeing (T1)	2.87	3.67	237	4.30	4.34	20	1.43	21	.168	.01	-.80	3.58
Non-work Stressor Score (T1)	0.62	0.93	237	0.50	0.76	20	-0.69	24	.497	.00	-.47	.21
T3 Drop Out Point												
Demands (T2)	3.98	0.73	232	3.73	0.65	23	-1.57	253	.119	.01	-.55	.02
Control (T2)	2.69	1.06	232	2.02	0.95	23	-2.92	253	.004	.03	-1.07	-.26
Manager Support (T2)	3.84	0.92	232	3.73	0.78	23	-0.55	253	.580	.00	-.42	.21
Peer Support (T2)	4.10	0.77	232	3.97	0.62	23	-0.82	253	.410	.00	-.41	.15
Role (T2)	4.40	0.67	232	4.28	0.62	23	-0.87	253	.385	.00	-.41	.14
Change (T2)	3.34	0.92	232	3.41	0.64	23	0.32	253	.751	.00	-.22	.33
Psychological Wellbeing (T2)	2.75	3.76	232	4.17	4.02	23	1.73	253	.085	.01	-.27	3.09
Non-work Stressor Score (T2)	0.68	1.01	232	0.87	1.29	23	0.83	253	.407	.00	-.28	.74

a - based on 1000 bootstrap samples unless otherwise noted

7.1.3 Hypothesis 1

A participatory approach to workplace interventions to reduce stress in call centre employees using the SRA will reduce employee work-related stress.

Paired-samples t-tests undertaken for participants present at T1, T2 and T3 found no consistent evidence of the effect of the intervention when comparing work-related stress in the intervention and control groups (Appendix 18, tables 44-47). A number of variables exhibited a statistically significant change in mean scores between time points, however these appear to be isolated and did not indicate a consistent change over time. Even when the same statistical tests were run for the large sample of participants that were present between T1 and T2, and those between T2 and T3 no consistent indication of change in mean scores was detected over the three time points (Appendix 18, tables 48-51). Independent-samples t-tests for the participant samples at T1, T2 and T3 similarly failed to show any statistically significant difference in the mean scores between intervention and control groups (Appendix 18, see table 52). With the initial qualitative data analysis indicating there were marked differences between the working environment in the Contact Centre and in Collections the paired-samples t-tests were repeated with a split data file to identify any differences in work stressors between the departments within the study groups. The analysis, run for both the T1-T2-T3 sample (Appendix 18, tables 53-60) and the T1-T2 and T2-T3 samples (Appendix 18, tables 61-68) again failed show any consistent change in mean scores over time for either study group or department.

Alongside these analyses a mixed between-within subjects ANOVA was conducted to assess the impact of the intervention over the three time points (table 12). There was a significant interaction between the study group and time for Demands (Wilks' Lambda = .82, $F(2, 60) = 6.64$, $p = .002$, partial Eta squared = .181) with both intervention and control groups seeing a reduction in mean score between T1 and T2 and an increase between T2 and T3. This perhaps indicates an intervention effect for Demands between T1 and T2, with any effect lost between T2 and T3, maybe as a result of the adverse weather events and lack of continued use of the

SRA. However, this result aside, taken together the results of these tests show no consistent effect of the intervention either between the study groups or over time.

Finally, the measure of intervention exposure included in the survey at T2 and T3 time points was used to consider the effect this might have on work-related stress. Paired-samples t-tests again showed no statistically significant effect of the intervention across T1-T2-T3 timeline (see Appendix 18, table 69-72). However the results of the independent-samples t-tests, see table 13, showed a difference in means scores between those exposed to the intervention and those not exposed, for Manager Support, Role and Change at T1, T2 and T2, for Control and Peer Support at T2 and T3, and for Demands at T2. The differences in mean scores for intervention exposure can be clearly seen in the charts in figures 21-26. To investigate this further a mixed between-within groups ANOVA was performed to consider effect of time and intervention exposure on work stressors (table 14). There was no significant effect for time, with neither group seeing significant changes in mean scores across the three time points. However there was a significant main effect of intervention exposure for Control, $F(1, 120) = 5.794$, $p = .018$, partial Eta squared = .05; Manager Support, $F(1, 120) = 10.423$, $p = .002$, partial Eta squared = .08; Peer Support, $F(1, 120) = 6.529$, $p = .012$, partial Eta squared = .05; Role, $F(1, 120) = 15.886$, $p = .000$, partial Eta squared = .12; and Change, $F(1, 120) = 12.915$, $p = .000$, partial Eta squared = .10. As such, participants identified as being exposed to the intervention at T2 were associated with a moderate to large effect on work-related stress, although the analysis indicated this was not as a result of the intervention itself.

In summary the statistical analysis showed no significant effect of the intervention over time, as such **hypothesis 1 is not supported.**

Table 12

Mixed Between-Within Groups Analysis of Variance for the Effects of the Intervention on Job Stressors

Variable	Intervention Group (n=27)						Control Group (n=36)					
	T1		T2		T3		T1		T2		T3	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Demands	3.92	0.63	3.80	0.56	4.19	0.53	4.30	0.64	4.22	0.55	4.31	0.56
Control	2.56	0.82	2.53	1.13	2.49	1.00	3.09	0.92	3.08	0.93	3.25	0.99
Manager Support	3.67	0.98	3.61	0.91	3.48	0.90	3.89	1.14	3.76	0.98	3.77	1.12
Peer Support	3.95	0.88	3.94	0.91	3.94	0.88	4.08	0.89	4.01	0.87	4.01	0.89
Role	4.19	0.88	4.02	0.81	4.07	0.77	4.37	0.82	4.36	0.74	4.41	0.68
Change	3.19	1.17	3.06	0.96	3.02	0.93	3.43	0.97	3.42	0.96	3.57	0.95

Variable	Effect for Time			Effect for Group			Group*Time		
	F	p	η^2	F	p	η^2	F	p	η^2
Demands	6.64	.002	.18	5.74	.020	.09	3.45	.058	.10
Control	0.25	.781	.01	8.07	.006	.12	0.86	.427	.03
Manager Support	2.28	.112	.07	0.76	.385	.01	0.40	.671	.01
Peer Support	0.26	.773	.01	0.18	.670	.00	0.11	.894	.00
Role	0.70	.502	.02	2.39	.127	.04	0.80	.453	.03
Change	0.43	.655	.01	2.76	.102	.04	1.47	.239	.05

Table 13

Group Differences in Work-related Stress for Participants Intervention Exposure

Variable	Intervention Exposure (n=89)		Intervention Non Exposure (n=33)		<i>t</i>	<i>df</i>	ρ	η^2	95% CI ^a	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					Lower	Upper
T1										
Demands	4.07	0.69	3.95	0.56	0.94	120	.348	.01	-.10	.34
Control	2.95	1.02	2.71	1.02	1.15	120	.251	.01	-.17	.64
Manager Support	4.04	0.92	3.56	0.98	2.51	120	.013	.05	.13	.81
Peer Support	4.12	0.74	3.92	0.75	1.30	120	.197	.01	-.11	.48
Role	4.54	0.63	4.13	0.85	2.92	120	.004	.07	.13	.70
Change	3.48	0.94	3.01	0.90	2.46	120	.015	.05	.14	.79
T2										
Demands	4.09	0.66	3.67	0.75	3.05	120	.003	.07	.12	.72
Control	3.08	1.01	2.47	1.09	2.90	120	.004	.07	.17	1.10
Manager Support	4.00	0.93	3.37	0.89	3.37	120	.001	.09	.29	1.00
Peer Support	4.21	0.74	3.77	0.86	2.81	120	.006	.06	.12	.80
Role	4.54	0.61	3.94	0.84	3.74	45	.001	.10	.28	.93
Change	3.54	0.92	2.90	0.91	3.42	58	.001	.09	.26	1.05
T3										
Demands	4.09	0.68	3.95	0.60	0.98	120	.328	.01	-.10	.37
Control	3.08	1.11	2.55	1.12	2.34	120	.021	.04	.06	.98
Manager Support	3.89	0.96	3.35	0.91	2.79	120	.006	.06	.20	.89
Peer Support	4.13	0.77	3.70	0.92	2.56	120	.012	.05	.09	.77
Role	4.46	0.60	4.02	0.82	2.84	45	.007	.06	.17	.74
Change	3.48	0.96	2.79	0.86	3.81	63	.000	.11	.37	1.01

a - based on 1000 bootstrap samples unless otherwise noted

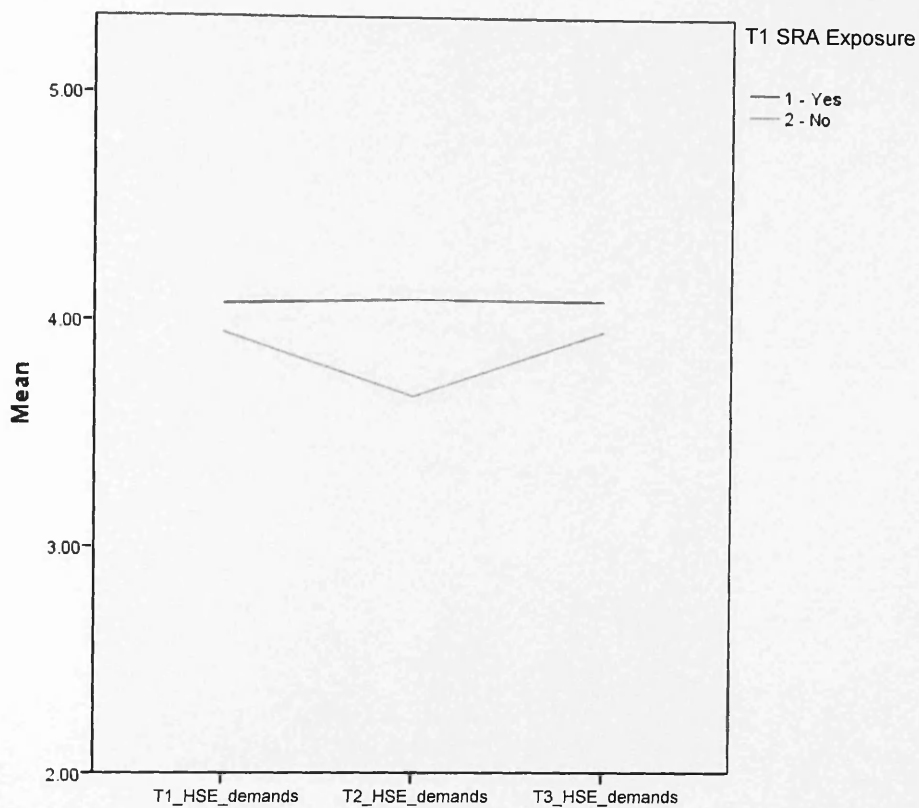


Figure 21 – Comparison of Means for Demands at T1, T2, and T3 for Participant Exposure to Intervention

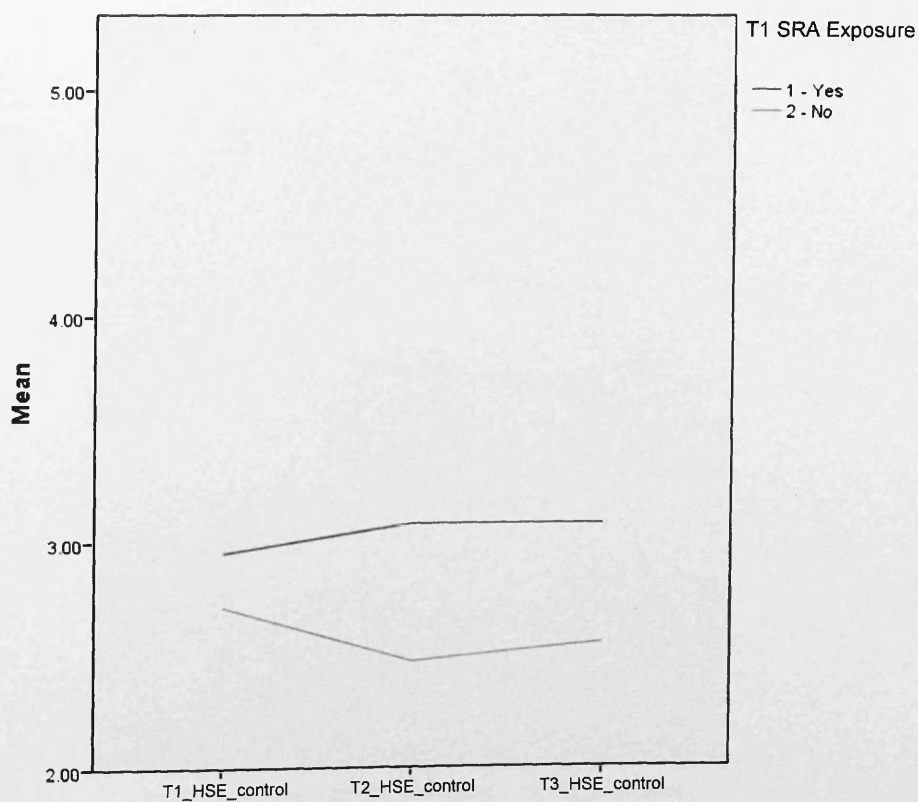


Figure 22 – Comparison of Means for Control at T1, T2, and T3 for Participant Exposure to Intervention

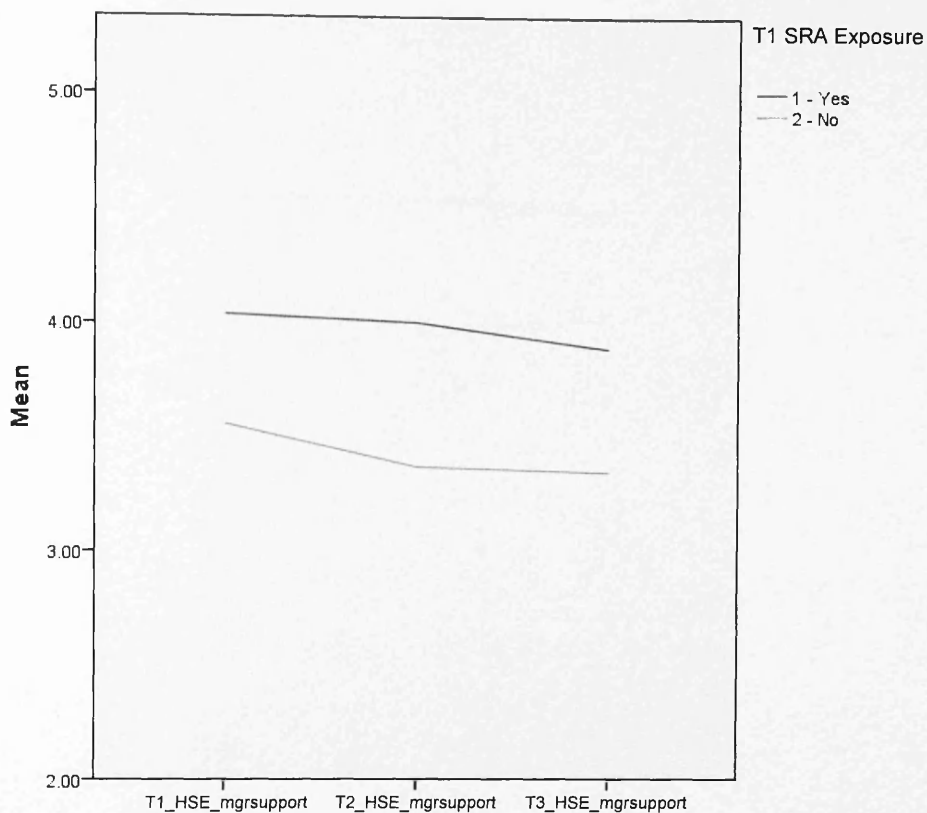


Figure 23 – Comparison of Means for Manager Support at T1, T2, and T3 for Participant Exposure to Intervention

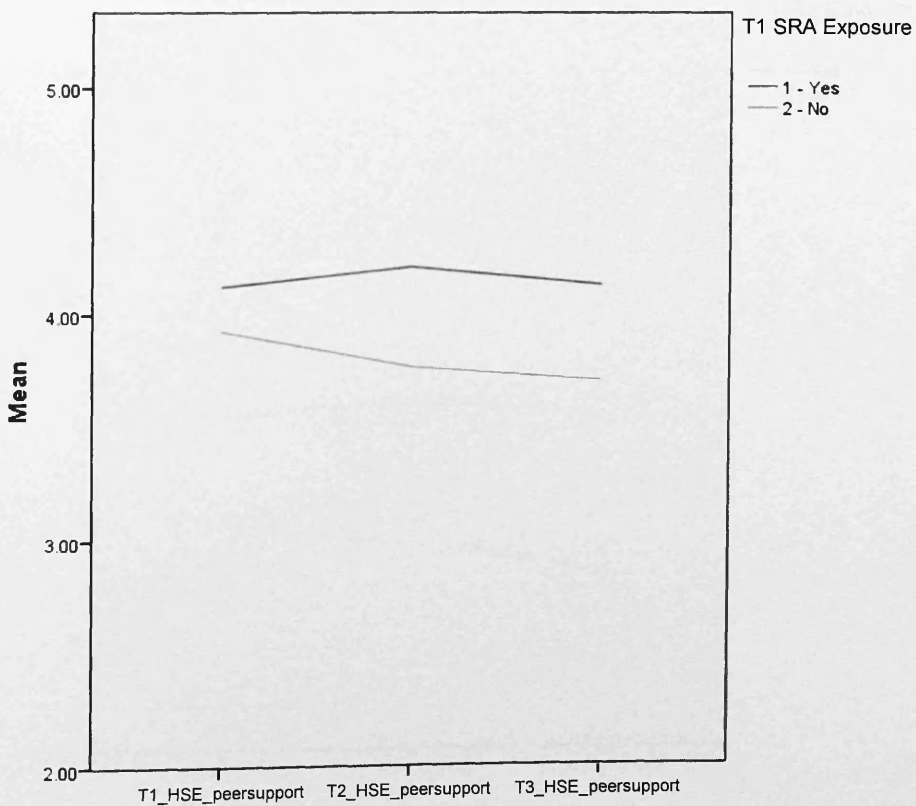


Figure 24 – Comparison of Means for Peer Support at T1, T2, and T3 for Participant Exposure to Intervention

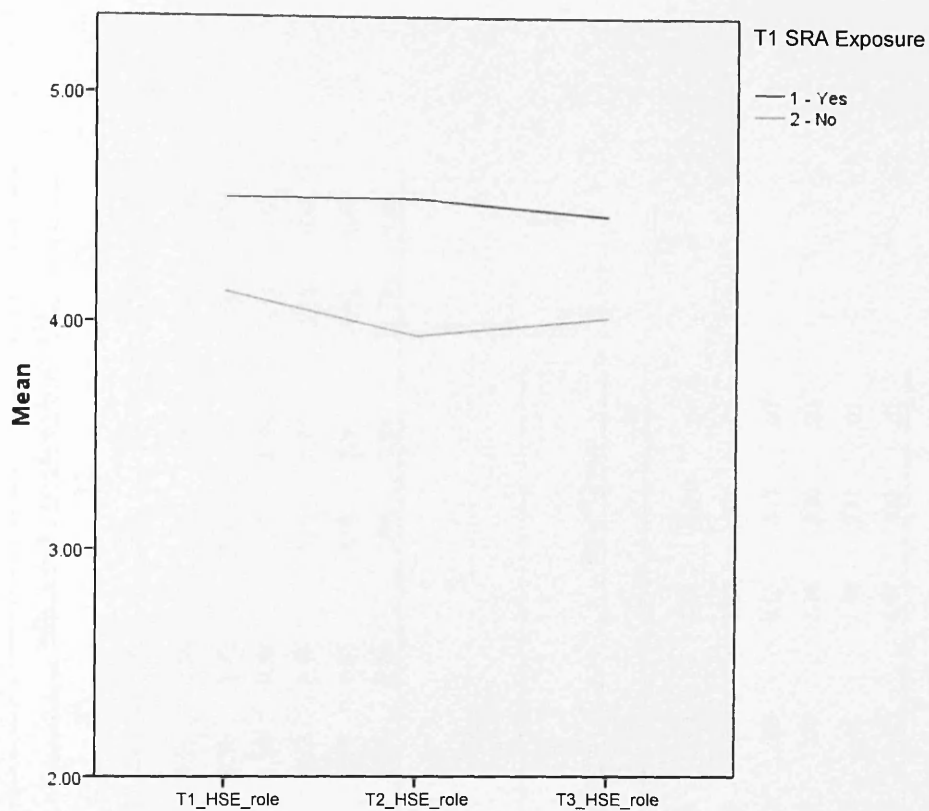


Figure 25 – Comparison of Means for Role at T1, T2, and T3 for Participant Exposure to Intervention

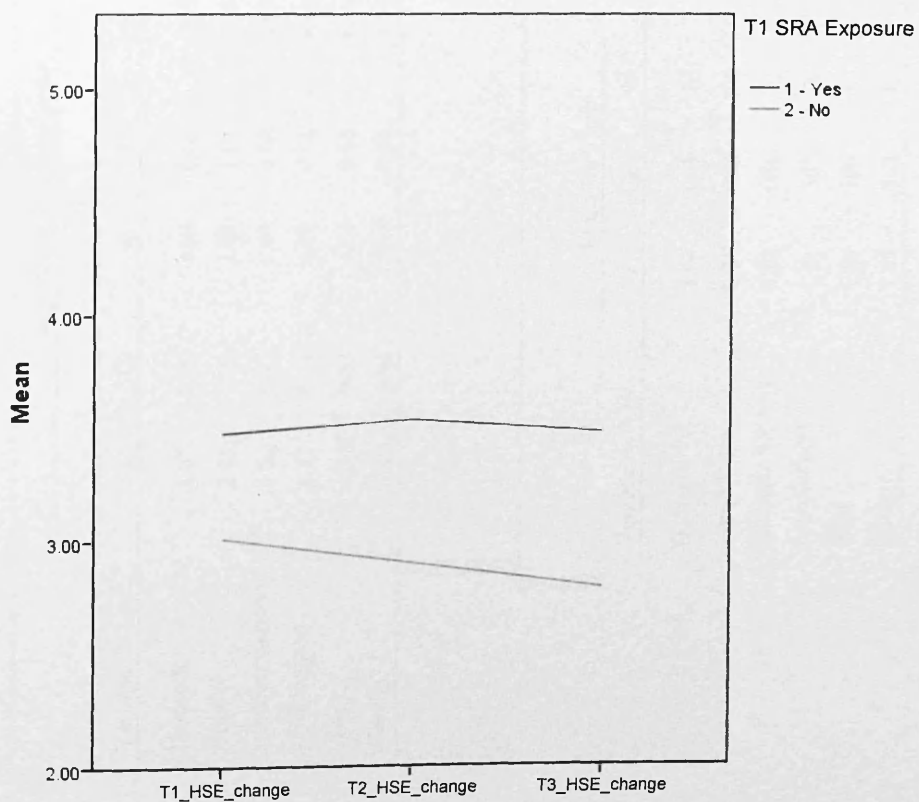


Figure 26 – Comparison of Means for Change at T1, T2, and T3 for Participant Exposure to Intervention

Table 14
Mixed Between-Within Groups Analysis of Variance for the Effects of Intervention Exposure on Job Stressors

Variable	Intervention Exposure (n=89)						Intervention Non-exposure (n=33)					
	T1		T2		T3		T1		T2		T3	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Demands	4.07	0.69	4.09	0.66	4.09	0.68	3.95	0.56	3.67	0.75	3.95	0.60
Control	2.95	1.02	3.08	1.01	3.08	1.11	2.71	1.02	2.47	1.09	2.55	1.12
Manager Support	4.04	0.92	4.00	0.93	3.89	0.96	3.56	0.98	3.37	0.89	3.35	0.91
Peer Support	4.12	0.74	4.21	0.74	4.13	0.77	3.92	0.75	3.77	0.86	3.70	0.92
Role	4.54	0.63	4.54	0.61	4.46	0.60	4.13	0.85	3.94	0.84	4.02	0.82
Change	3.48	0.94	3.54	0.92	3.48	0.96	3.01	0.90	2.90	0.91	2.79	0.86

Variable	Effect for Time			Effect for Group			Time*Group		
	F	ρ	η^2	F	ρ	η^2	F	ρ	η^2
Demands	3.04	.051	.05	3.87	.052	.03	3.04	.069	.06
Control	0.25	.782	.00	5.79	.018	.05	2.37	.098	.04
Manager Support	2.82	.064	.05	10.42	.002	.08	0.55	.577	.01
Peer Support	1.21	.303	.02	6.53	.012	.05	2.16	.120	.04
Role	1.69	.190	.03	15.89	.000	.12	1.48	.231	.02
Change	1.03	.362	.02	12.91	.000	.10	0.87	.423	.01

7.1.4 Hypothesis 1a

Work-related stress will be higher in Contact Centre employees than in Collections employees

Independent-samples t-tests were used to explore the differences in mean work stressor scores at T1, at T2 and at T3. The analysis, shown in tables 15-18, indicate that participants working in the Contact Centre had, at various time points, significantly higher exposure to Demands, Control and Change stressors. In particular Contact Centre participants in both intervention and control groups had lower mean scores for Control at T1, T2 and T3, participants in the control group had lower scores for Demands at T1, T2 and T3. The magnitude of the differences in the means, as indicated by the Eta squared values, shows a moderate to large size of effect on exposure to Demands and Control stressors from working in the Contact Centre. As such **hypothesis 1a is supported.**

Table 15
Group Differences in Work-related Stress Between Intervention Group and Control Group

Variable	Intervention Group			Control Group			df	t	p	η ²	95% CI ^a	
	M	SD	N	M	SD	N					Lower	Upper
T1												
Demands	3.90	0.79	121	4.03	0.79	140	259	-1.34	.181	.01	-.32	.06
Control	2.52	0.97	121	2.69	1.11	140	259	-1.32	.188	.01	-.43	.10
Manager Support	3.80	0.94	121	3.87	0.94	140	259	-0.65	.513	.00	-.31	.17
Peer Support	4.05	0.79	121	4.03	0.71	140	259	0.18	.853	.00	-.15	.18
Role	4.32	0.77	121	4.43	0.66	140	259	-1.27	.205	.01	-.30	.06
Change	3.21	1.02	121	3.25	0.91	140	259	-0.33	.740	.00	-.27	.23
T2												
Demands	3.89	0.64	127	4.03	0.75	114	239	-1.52	.129	.01	-.31	.05
Control	2.54	1.09	127	2.79	1.05	114	239	-1.82	.069	.01	-.51	.01
Manager Support	3.82	0.87	127	3.87	0.92	114	239	-0.42	.673	.00	-.27	.16
Peer Support	4.15	0.74	127	4.06	0.75	114	239	1.01	.313	.00	-.08	.27
Role	4.30	0.70	127	4.44	0.65	114	239	-1.60	.112	.01	-.30	.01
Change	3.30	0.88	127	3.38	0.93	114	239	-0.65	.518	.00	-.31	.14
T3												
Demands	4.03	0.66	115	4.15	0.61	110	223	-1.44	.152	.01	-.27	.03
Control	2.50	1.01	115	3.09	1.10	110	223	-4.21	.000	.07	-.86	-.33
Manager Support	3.71	0.94	115	3.88	1.00	110	223	-1.29	.198	.01	-.42	.08
Peer Support	3.99	0.79	115	4.07	0.77	110	223	-0.80	.427	.00	-.29	.11
Role	4.21	0.72	115	4.41	0.64	110	223	-2.20	.029	.02	-.38	-.01
Change	3.21	0.92	115	3.44	0.94	110	223	-1.88	.061	.02	-.48	.00

a - based on 1000 bootstrap samples unless otherwise noted

Table 16

Group Differences in Work-related Stress for Participants Working in the Contact Centre and Collection Between Intervention Group and Control Group at T1.

Variable	Contact Centre			Collections			df	t	p	η ²	95% CI ^a		
	M	SD	N	M	SD	N					Lower	Upper	
Intervention Group													
T1													
Demands	3.74	0.92	54	4.03	0.65	67		-1.94	92	.055	.03	-.58	-.01
Control	2.19	0.94	54	2.79	0.92	67		-3.59	119	.000	.10	-.94	-.30
Manager Support	3.89	1.03	54	3.72	0.86	67		0.98	119	.329	.01	-.13	.47
Peer Support	4.02	0.81	54	4.08	0.77	67		-0.41	119	.679	.00	-.33	.21
Role	4.31	0.84	54	4.33	0.71	67		-0.18	119	.861	.00	-.29	.25
Change	3.21	1.08	54	3.22	0.99	67		-0.05	119	.962	.00	-.37	.33
Control Group													
T1													
Demands	3.80	0.86	72	4.28	0.62	68		-3.79	129	.000	.09	-.72	-.22
Control	2.24	1.05	72	3.18	0.97	68		-5.49	138	.000	.18	-1.27	-.60
Manager Support	3.87	0.79	72	3.88	1.08	68		-0.11	122	.912	.00	-.33	.32
Peer Support	4.05	0.56	72	4.01	0.85	68		0.32	115	.752	.00	-.21	.29
Role	4.42	0.60	72	4.45	0.72	68		-0.29	138	.776	.00	-.24	.20
Change	2.99	0.89	72	3.54	0.86	68		-3.75	138	.000	.09	-.83	-.26

a - based on 1000 bootstrap samples unless otherwise noted

Table 17

Group Differences in Work-related Stress for Participants Working in the Contact Centre and Collection Between Intervention Group and Control Group at T2.

Variable	Contact Centre			Collections			ρ	η^2	95% CI ^a			
	M	SD	N	M	SD	N			Lower	Upper		
Intervention Group												
T2												
Demands	3.85	0.69	66	3.95	0.58	61	.389	.01	-.31	.13		
Control	2.25	1.05	66	2.86	1.04	61	.001	.08	-1.01	-.25		
Manager Support	3.94	0.83	66	3.70	0.90	61	.126	.02	-.07	.54		
Peer Support	4.16	0.73	66	4.15	0.77	61	.923	.00	-.25	.25		
Role	4.42	0.63	66	4.18	0.76	61	.055	.03	-.02	.50		
Change	3.37	0.90	66	3.23	0.87	61	.396	.01	-.17	.41		
Control Group												
T2												
Demands	3.85	0.82	57	4.21	0.62	57	.010	.06	-.61	-.13		
Control	2.46	1.02	57	3.13	0.98	57	.000	.10	-1.03	-.32		
Manager Support	3.93	0.90	57	3.81	0.95	57	.494	.00	-.20	.42		
Peer Support	4.08	0.68	57	4.04	0.81	57	.756	.00	-.22	.26		
Role	4.46	0.62	57	4.43	0.69	57	.776	.00	-.17	.23		
Change	3.30	0.86	57	3.46	1.00	57	.351	.01	-.46	.12		

a - based on 1000 bootstrap samples unless otherwise noted

Table 18

Group Differences in Work-related Stress for Participants Working in the Contact Centre and Collection Between Intervention Group and Control Group at T3.

Variable	Contact Centre			Collections			t	df	ρ	η ²	95% CI ^a	
	M	SD	N	M	SD	N					Lower	Upper
Intervention Group												
T3												
Demands	3.88	0.70	57	4.18	0.60	58	-2.44	113	.016	.05	-.52	-.09
Control	2.18	0.85	57	2.81	1.06	58	-3.53	109	.001	.10	-.97	-.27
Manager Support	3.84	0.90	57	3.59	0.97	58	1.39	113	.168	.02	-.09	.58
Peer Support	3.97	0.76	57	4.01	0.83	58	-0.27	113	.791	.00	-.31	.22
Role	4.34	0.66	57	4.08	0.77	58	1.94	113	.055	.03	.02	.48
Change	3.27	0.93	57	3.14	0.92	58	0.76	113	.448	.01	-.19	.45
Control Group												
T3												
Demands	3.97	0.64	51	4.31	0.53	59	-3.11	108	.002	.08	-.58	-.13
Control	2.73	1.15	51	3.40	0.96	59	-3.30	98	.001	.09	-1.06	-.29
Manager Support	3.84	0.98	51	3.92	1.02	59	-0.43	108	.665	.00	-.44	.28
Peer Support	4.00	0.74	51	4.14	0.79	59	-0.98	108	.331	.01	-.43	.11
Role	4.37	0.64	51	4.45	0.64	59	-0.66	108	.513	.00	-.32	.16
Change	3.14	0.91	51	3.70	0.89	59	-3.23	108	.002	.09	-.87	-.22

a - based on 1000 bootstrap samples unless otherwise noted

7.1.5 Hypothesis 2

A participatory approach to workplace interventions to reduce stress in call centre employees using the SRA will improve psychological wellbeing.

Paired-samples t-tests undertaken for participants present at T1, T2 and T3 found no consistent evidence of the effect of the intervention when comparing psychological wellbeing in the intervention and control groups (Appendix 19, tables 73 & 74). Even when the same statistical tests were run for the large sample of participants that were present between T1 and T2, and those between T2 and T3 no consistent indication of change in mean scores was detected over the three time points (Appendix 19, tables 75 & 76). Independent-samples t-tests for the participant samples at T1, T2 and T3 similarly failed to show any statistically significant difference in the mean scores between intervention and control groups (Appendix 19, table 77). As with hypothesis 1, the paired-samples t-tests were repeated with a split data file to identify any differences in psychological wellbeing between the Contact Centre and Collections within the study groups. The analysis, run for both the T1-T2-T3 sample (Appendix 19, tables 78 & 79) and the T1-T2 and T2-T3 samples (Appendix 19, tables 80 & 81) again failed show any consistent change in mean scores over time for either study group or department.

Alongside these analyses a mixed between-within subjects ANOVA was conducted to assess the impact of the intervention over the three time points (table 19). There was a significant effect for time (Wilks' Lambda = .889, $F(2, 60) = 3.734$, $p = .030$, partial Eta squared = .11) with the mean psychological wellbeing score in both groups reducing between T1 and T2, but then increasing between T2 and T3. Similar to the effect seen on the Demands stressor in Hypothesis 1 it is possible that this is due to the workload impact of the adverse weather event, particularly as there was main effect detected for study group.

The measure of participant's intervention exposure was used to consider how this might affect psychological wellbeing. Paired-samples t-tests showed no statistically significant effect of the intervention across from T1-T2, see table 20 & 21, with the mean psychological wellbeing score

increasing for those exposed of the intervention between T2 and T3. Similarly the results of the independent-samples t-tests, shown in table 22, indicate that participants identified as being exposed to the intervention at T2 were associated with a significantly better psychological wellbeing score than those not exposed, with a moderate size of effect for intervention exposure. To investigate this further, a mixed between-within groups ANOVA was performed to consider effect of time and intervention exposure on psychological wellbeing (see table 23). There was a significant moderate effect for time (Wilks' Lambda = .941, $F(2, 119) = 3.704$, $p = .028$, partial Eta squared = .06) combined with a significant main effect of intervention exposure on psychological wellbeing, $F(1, 120) = 4.725$, $p = .032$, partial Eta squared = .04. This is clearly illustrated in the chart in figure 27.

Taken together these results present a mixed view of the effectiveness of the intervention on psychological wellbeing, the comparison of means using t-tests provide no evidence of effectiveness, however the ANOVA test indicated some effect mechanism related to intervention exposure. However, as with the results for hypothesis 1, it seems likely that the effect on psychological wellbeing might be as a result of a factor or factors other than the intervention itself. As such **hypothesis 2 is not supported.**

Table 19

Mixed Between-Within Groups Analysis of Variance for the Effects of the Intervention on Psychological Wellbeing

Variable	Intervention group (n=27)						Control group (n=36)					
	T1			T2			T3			T1		
	M	SD		M	SD		M	SD		M	SD	
Psychological Wellbeing	3.96	4.20		2.85	3.57		4.44	3.95		2.86	3.99	
										2.39	3.41	
										3.19	4.16	

Variable	Effect for Time			Effect for Group			Group*Time		
	F	p	η ²	F	p	η ²	F	p	η ²
Psychological Wellbeing	3.734b	.030	.11	1.26	.267	.02	0.48	.624	.02

Table 20

Difference in Psychological Wellbeing for Participants Exposed to the Intervention (n=89) and Participants Not Exposed to the Intervention (n=33) Between T1 and T2 (T1-T2 sample)

Variable	T1		T2		<i>t</i>	<i>df</i>	ρ	η^2	95% CI ^a	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					Lower	Upper
Intervention exposure										
Psychological Wellbeing	2.60	3.65	2.26	3.26	0.99	88	.326	.01	-.34	1.02
Intervention Non-exposure										
Psychological Wellbeing	3.36	3.75	3.58	4.26	-0.36	32	.723	.00	-1.42	1.00

a - based on 1000 bootstrap samples unless otherwise noted

Table 21

Difference in Psychological Wellbeing for Participants Exposed to the Intervention (n=89) and Participants Not Exposed to the Intervention (n=33) Between T2 and T3 (T2-T3 sample)

Variable	T2		T3		<i>t</i>	<i>df</i>	<i>p</i>	<i>η</i> ²	95% CI ^a	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					Lower	Upper
Intervention exposure										
Psychological Wellbeing	2.26	3.26	2.82	3.80	-1.59	88	.116	.03	-1.27	.14
Intervention Non-exposure										
Psychological Wellbeing	3.58	4.26	4.85	4.12	-2.06	32	.047	.12	-2.53	-.02

a - based on 1000 bootstrap samples unless otherwise noted

Table 22

Difference in Psychological Wellbeing Between Participants Exposed to the Intervention (n=89) and Participants Not Exposed to the Intervention (n=33) (T1, T2 and T3 samples)

Variable	Intervention exposure		Intervention Non-exposure		<i>t</i>	<i>df</i>	ρ	η^2	95% CI ^a	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					Lower	Upper
T1 Psychological Wellbeing	2.60	3.65	3.36	3.75	-1.02	120	.308	.01	-2.30	.61
T2 Psychological Wellbeing	2.26	3.26	3.58	4.26	-1.61	47	.114	.02	-3.05	.35
T3 Psychological Wellbeing	2.82	3.80	4.85	4.12	-2.56	120	.012	.05	-3.64	-.48

a - based on 1000 bootstrap samples unless otherwise noted

Table 23

Mixed Between-Within Groups Analysis of Variance for the Effects of Intervention Exposure on Psychological Wellbeing

Variable	Intervention Exposure (n=89)						Intervention Non-exposure (n=33)					
	T1		T2		T3		T1		T2		T3	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Psychological Wellbeing	2.60	3.65	2.26	3.26	2.82	3.80	3.36	3.75	3.58	4.26	4.85	4.12

Variable	Effect for Time			Effect for Group			Group*Time		
	F	p	η^2	F	p	η^2	F	p	η^2
Mental Health	3.704b	.028	.06	4.72	.032	.04	1.24	.293	.02

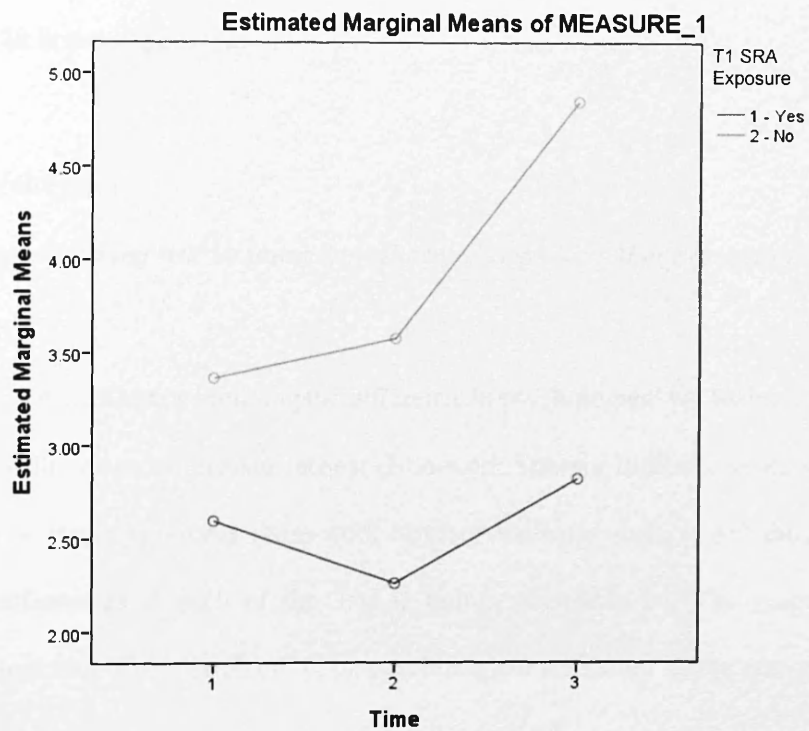


Figure 27 – Comparison of Estimated Marginal Means for Psychological Wellbeing at T1, T2, and T3 for Participant Exposure to Intervention

7.1.6 Hypothesis 2a

Psychological wellbeing will be lower in Contact Centre employees than in Collections employees

Independent-samples t-tests were used to explore the differences in mean work stressor scores at T1, at T2 and at T3. The analyses (Appendix 19, tables 82-84) showed no statistically significant difference between mean psychological wellbeing scores for participants working in Collections or the Contact Centre, across both intervention and control groups. As such **hypothesis 2a is not supported.**

7.1.7 Hypothesis 3

Psychological wellbeing will be lower in call centre employees that are exposed to non-work stressors.

Independent sample t-tests examining the difference in psychological wellbeing scores between participants with non-work stressors absent (Non-work Stressor Indicator score < 2) and those with non-work stressors present (Non-work Stressor Indicator score = 2+) show statistically significant differences at each of the 3 time points, see table 24. The magnitude of the association indicates a very large effect on psychological wellbeing where non-work stressors were present.

This was further explored with hierarchical multiple regression analyses to assess the ability of non-work and work stressors to predict psychological wellbeing. In the first analysis, shown in tables 25 & 26, the Non-work Case was entered at step 1, explaining 45.8% variance in psychological wellbeing $F(1, 253) = 213.98, p < .001$. Demands and Control were entered at step 2, explaining a further 17.3% variance in psychological wellbeing $F(3, 248) = 143.08, p < .001$. The regression analysis was repeated with the actual Non-work Score at step 1, to help assess the appropriateness of the non-work stressor threshold, see tables 27 & 28. The results were similar, with the Non-work Score explaining 45.1% of the variance of psychological wellbeing

$F(1, 253) = 207.57, p < .001$, with Demands and Control added at step 2 to explain a further 16.5% variance $F(3, 248) = 134.17, p < .001$. In this model Non-work score recorded a higher Beta value ($beta = .67, p < .001$) than Demands ($beta = -.34, p < .001$) and Control ($beta = -.13, p < .05$).

The results of this analysis confirm that **hypothesis 3 is supported**.

Table 24

Group Differences in Psychological Wellbeing Between Participants With Non-work Stressors Present and Those With Non-work Stressors Absent

Variable	Non-work stressors absent			Non-work stressors present			<i>t</i>	<i>df</i>	<i>p</i>	η^2
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>				
T1										
Psychological Wellbeing	2.01	2.92	210	7.34	3.90	47	-8.83	58	.000	.23
T2										
Psychological Wellbeing	1.35	2.51	179	7.52	3.37	54	12.43	72	.000	.40
T3										
Psychological Wellbeing	1.99	3.07	172	7.65	3.72	52	-9.99	73	.000	.31

Table 25

Means, Standard Deviations and Intercorrelations for Psychological Wellbeing, and Non-work Stressor Case and Work Stressor Predictor Variables (n=255, T2 sample)

Variable	<i>M</i>	<i>SD</i>	1	2	3
Psychological Wellbeing	2.87	3.80	.68***	-.53***	-.39***
Predictor variable					
1. Non-work stressors (case)	1.23	0.42	-	-.20**	-.17**
2. Demands	3.95	0.72		-	.44***
3. Control	2.63	1.07			-

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 26

Hierarchical Regression Analysis Summary for Non-work Stressor Case and Work Stressors Predicting Psychological Wellbeing

Step and Predictor Variable	<i>B</i>	<i>SE B</i>	β	R^2	ΔR^2
Step 1:				.46***	
Non-work stressors (case)	6.12	0.42	.68***		
Step 2:				.63***	.17
Non-work stressors (case)	5.26	0.36	.58***		
Demands	-1.82	0.23	-.35***		
Control	-0.49	0.15	-.14***		

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 27

Means, Standard Deviations and Intercorrelations for Psychological Wellbeing, and Non-work Stressor Score and Work Stressor Predictor Variables (n=255, T2 sample)

Variable	<i>M</i>	<i>SD</i>	1	2	3
Psychological Wellbeing	2.87	3.80	.68***	-.53***	-.39***
Predictor variable					
1. Non-work stressor (score)	0.70	1.04	-	-.22***	-.19**
2. Demands	3.95	0.72		-	.44***
3. Control	2.63	1.07			-

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 28

Hierarchical Regression Analysis Summary for Non-work Stressor Score and Work Stressors Predicting Psychological Wellbeing

Step and Predictor Variable	<i>B</i>	<i>SE B</i>	β	R^2	ΔR^2
Step 1:				.45***	
Non-work stressor (score)	2.46	0.17	.67***		
Step 2:				.62***	.17
Non-work stressor (score)	2.09	0.15	.57***		
Demands	-1.79	0.23	-.34***		
Control	-0.48	0.16	-.13***		

* $p < .05$, ** $p < .01$, *** $p < .001$.

7.1.8 Hypothesis 4

Reduced work-related stress for call centre employees will improve psychological wellbeing.

A hierarchical multiple regression was used to assess the ability of work stressors to predict psychological wellbeing, firstly controlling for study group (see tables 29 & 30). Study group was entered at step 1, showing no statistical contribution to the model. Demands and Control were added at step 2, explaining 31% of the variance in psychological wellbeing $F(3, 250) = 38.28, p < .001$. In step 3 Manager Support, Peer Support, Role and Change were added, explaining a further 3% in variance in psychological wellbeing $F(7, 242) = 18.67, p < .001$. In the final model however only Demands and Control were statistically significant, with Demands recording a higher Beta value ($\beta = -.35, p < .001$) than Control ($\beta = -.14, p < .05$).

A series of hierarchical multiple regression analyses were then repeated to control for a range of variables: gender (Appendix 20, tables 85 & 86), working hours (Appendix 20, table 87 & 88), age (Appendix 20, tables 89 & 90) and job type (Appendix 20, tables 91 & 92), none of which made a statistically significant contribution to the model. The regression analysis was then run separately for job type in each department. Again this did not make a statistically significant contribution to the model (Appendix 20, table 93-96).

In each of these regression analyses Demands and Control were included as step 2 in the model, producing consistent results that explained around 30% of the variance of psychological wellbeing (range 26.2% - 31.2%). This relationship between work-related stress and psychological wellbeing is further supported by the results of independent-samples t-tests that examined Demands and Control stressors for participants with good psychological wellbeing ($\text{GHQ-12} < 4$) and those with poor psychological wellbeing ($\text{GHQ-12} = 4+$). The results, shown in table 31, show that participants with poor psychological wellbeing experienced higher levels of work-related stress due to Demands and Control. Whilst these results help establish a relationship between work-related stress and psychological wellbeing, this is not identified as being causal in either direction.

Taking this analysis into account it is clear that **hypothesis 4 is supported**.

Table 29

Means, Standard Deviations and Intercorrelations for Psychological Wellbeing, and Study Group and Work Stressor Predictor Variables (n=257)

Variable	M	SD	1	2	3	4	5	6	7
Psychological Wellbeing	2.89	3.80	.00	-.52***	-.40***	-.40***	-.42***	-.39***	-.41***
Predictor variable									
1. Study Group	1.48	0.50	-	.09	.12*	.01	-.04	.13*	.03
2. Demands	3.95	0.73		-	.42***	.44***	.44***	.44***	.46***
3. Control	2.64	1.07			-	.42***	.42***	.38***	.51***
4. Manager Support	3.83	0.90				-	.72***	.64***	.74***
5. Peer Support	4.09	0.76					-	.58***	.60***
6. Role	4.39	0.67						-	.64***
7. Change	3.35	0.90							-

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 30

Hierarchical Regression Analysis Summary for Study Group and Work Stressors Predicting Psychological Wellbeing

Step and Predictor Variable	B	SE B	β	95% CI ^a		R ²	ΔR^2
				Lower	Upper		
Step 1: Study Group	0.01	0.48	.00	-.92	.95	.00	
Step 2: Study Group	0.50	0.40	.07	-.29	1.28	.31***	0.31
Demands	-2.27	0.30	-.43***	-2.86	-1.67		
Control	-0.78	0.20	-.22***	-1.18	-.38		
Step 3: Study Group	0.43	0.40	.06	-.36	1.22	.34*	0.03
Demands	-1.83	0.32	-.35***	-2.46	-1.19		
Control	-0.51	0.22	-.14***	-.94	-.08		
Manager Support	-0.09	0.38	.02	-.84	.66		
Peer Support	-0.57	0.39	-.12	-1.34	.19		
Role	-0.43	0.42	-.08	-1.25	.40		
Change	-0.20	0.36	-.05	-.90	.50		

* $p < .05$, ** $p < .01$, *** $p < .001$.

a - based on 1000 bootstrap samples unless otherwise noted

Table 31

Group Differences in Demands and Control Work Stressors for Participants with Good Psychological Wellbeing (n=167) and Poor Psychological Wellbeing (n=81) at T2.

Variable	Good Psychological Wellbeing		Poor Psychological Wellbeing		<i>t</i>	<i>df</i>	<i>p</i>	η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Demands	4.18	0.56	3.45	0.78	7.52	121	.000	.19
Control	2.85	1.03	2.10	0.94	5.51	246	.000	.11

7.1.9 Predictive Model

With hypotheses 3 and 4 both supported it is therefore possible to construct a model to predict the effect of work and non-work stressors on psychological wellbeing for call centre employees working in the Contact Centre and in Collections. A hierarchical multiple regression analysis was run for participants in each department using data from T2. For participants in the Contact Centre (see tables 32 & 33), non-work score entered at step 1 explained 48.9% of the variance in psychological wellbeing. Demands, entered at step 2, explained a further 14.4% variance. Control, Job Role and Age were entered at subsequent steps but none made a statistically significant contribution to the model. This results in a predictive model that explains 62.8% of the variation in psychological wellbeing of Contact Centre employees due to work and non-work stressors $F(2, 129) = 113.35, p < .001$. In this model Non-work score recorded a higher Beta value ($\beta = .61, p < .001$) than Demands ($\beta = -.35, p < .001$). As such the model can expressed as follows:

$$\text{Psychological Wellbeing (GHQ-12)} = 9.37 + (2.21 * \text{Non-work Score}) + (-1.79 * \text{Demands})$$

such that:

As Non-work Score increases by 1 SD (1.12), GHQ-12 increases by .61 SD (1.99)

As Demands score decreases by 1 SD (.79), GHQ-12 increases by .35 SD (1.14)

For participants in Collections (see tables 34 & 35), non-work score entered at step 1 explained 45.0% of the variance in psychological wellbeing. Demands, entered at step 2, explained a further 10.2% variance. Control, entered at step 2, explained a further 3.3% variance. This results in a predictive model that explains 58.4% of the variation in psychological wellbeing of Collections employees due to work and non-work stressors $F(3, 106) = 51.01, p < .001$. In this model Non-work score recorded a higher Beta value ($\beta = .58, p < .001$) than Demands ($\beta = -.26, p < .001$) and Control ($\beta = -.18, p < .001$). As such the model can be expressed as follows:

$$\text{Psychological Wellbeing (GHQ-12)} = 9.38 + (2.08 * \text{Non-work Score}) + (-1.47 * \text{Demands}) + (-.60 * \text{Control})$$

such that:

As Non-work Score increases by 1 SD (.92), GHQ-12 increases by .58 SD (1.90)

As Demands score decreases by 1 SD (.60), GHQ-12 increases by .26 SD (0.87)

As Control score decreases by 1 SD (.98), GHQ-12 increases by .18 SD (.59)

From this analysis the following can be deduced:

- Non-work stressors were around three times more influential on psychological wellbeing than work stressors
- Demands had less influence on psychological wellbeing in Collections in comparison with the Contact Centre
- Control influences the psychological wellbeing in Collections but not in the Contact Centre

Table 32

Means, Standard Deviations and Intercorrelations for Psychological Wellbeing, and Non-work Stressor Case, Work Stressor, Job Type and Age Predictor Variables for Participants Working in the Contact Centre (n=134, T2 sample)

Variable	M	SD	1	2	3	4	5
Psychological Wellbeing	3.28	4.08	.70***	-.52***	-.36***	-.06	-.19*
Predictor variable							
1. Non-work stressors (case)	0.81	1.12	-	-.21**	-.18*	-.01	-.19*
2. Demands	3.85	0.79		-	.41***	-.04	-.04
3. Control	2.35	1.03			-	.55***	.13

*p< .05, **p< .01, ***p< .001.

Table 33

Hierarchical Regression Analysis Summary for Non-work Stressor Case and Work Stressors Predicting Psychological Wellbeing for Participants Working in the Contact Centre

Step and Predictor Variable	B	SE B	β	95% CI ^a		R ²	ΔR ²
				Lower	Upper		
Step 1:						.49***	
Non-work stressors (case)	2.55	0.23	.70***	2.10	3.00		
Step 2:						.63***	.14
Non-work stressors (case)	2.25	0.20	.62***	1.86	2.64		
Demands	-2.00	0.28	-.39***	-2.55	-1.45		
Step 3:						.64	.01
Non-work stressors (case)	2.21	0.20	.61***	1.82	2.60		
Demands	-1.79	0.30	-.34***	-2.38	-1.20		
Control	-0.42	0.23	-.10	-.87	.03		

*p< .05, **p< .01, ***p< .001.

a - based on 1000 bootstrap samples unless otherwise noted

Table 34

Means, Standard Deviations and Intercorrelations for Psychological Wellbeing, and Non-work Stressor Case, Work Stressor, Job Type and Age Predictor Variables for Participants Working in Collections (n=113, T2 sample)

Variable	M	SD	1	2	3	4	5
Psychological Wellbeing	2.22	3.30	.67***	-.46***	-.38***	-.17*	-.20*
Predictor variable							
1. Non-work stressors (case)	0.56	0.92	-	-.23**	-.15	-.15	-.11
2. Demands	4.12	0.60		-	.40***	-.07	.17*
3. Control	3.04	0.98			-	.34***	.19*

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 35

Hierarchical Regression Analysis Summary for Non-work Stressor Case and Work Stressors Predicting Psychological Wellbeing for Participants Working in Collections

Step and Predictor Variable	B	SE B	β	95% CI ^a		R^2	ΔR^2
				Lower	Upper		
Step 1: Non-work stressors (case)	2.42	0.25	.67***	1.92	2.92	.45***	
Step 2: Non-work stressors (case) Demands	2.15 -1.82	0.24 0.36	.60*** -.33***	1.68 -2.54	2.62 -1.10	.55***	.10
Step 3: Non-work stressors (case) Demands Control	2.10 -1.40 -0.66	0.23 0.38 0.23	.58*** -.25*** -.19**	1.64 -2.15 -1.11	2.55 -.65 -.21	.58**	.03

* $p < .05$, ** $p < .01$, *** $p < .001$.

a - based on 1000 bootstrap samples unless otherwise noted

7.2 Qualitative Results

The qualitative data analysis examined data from the focus groups, documentation and correspondence, together with training evaluation and intervention exposure data. This primarily examined the first three stages of the evaluation framework described in chapter 3: changes in attitudes, values and knowledge; changes in individual resources; and changes in working procedures. The results therefore are presented broadly across the three stages.

7.2.1 Change in Attitudes, Values and Knowledge

The study's intervention was primarily targeted at improving the participation of team members in a process designed to identify aspects of their work they find stressful and then implement measures to prevent this. To this end the intervention appeared to achieve some success, with CRMs reporting active involvement in the SRA process, principally in its first cycle. There was evidence that CRMs' participation improved their perception of being involved in business decisions and that, in some cases, they felt better about the decisions being made because they believed they had had the chance to express their opinion. This appeared to have had a positive affective effect on CRMs simply by being involved in a structured participation process:

"They definitely feel more valued. I think that's a bit more of a motivational tool, its motivational technique isn't it. Making somebody part of the decision and making them feel valued, you're bound psychologically to get more out of them aren't you?"

Carl, Team Manager Contact Centre

However an important factor in this was the sense that the act of involving them in the decision making had to involve a credible process – where full regard was paid to their contribution. Where there was evidence that managers had repeated and reviewed the intervention process in the second cycle this appears to have improved the perception of credible involvement. Where there were cynical or sceptical views regarding the intervention these centred on whether management would take issues seriously and resolve them. As such it was important not just for issues to be identified but for team managers to follow through on action plans. Similarly, team managers in the Contact Centre and Collections talked positively about the effect of

increased levels of participation resulting from the intervention. In particular team managers described the benefits of having a better understanding of a CRM's perspective on their work, which helped inform their decision making processes. In particular there was some evidence that working through the SRA was successful in changing managers' perceptions of aspects of their team's work that created pressure and that they found stressful:

"Admittedly it was quite a difficult meeting, but my team aren't shy at coming forward, they're very opinionated, they like to get in there. So, it was good, enjoyable, but it was a bit of an eye opener on certain things." Bea, Team Manager Collections

There was also evidence of a two-way direction of the flow of information prompted by the intervention's structured participation, with this being beneficial to improving the awareness that CRMs have of wider business issues and helping them understand the rationale for business decisions. This was important for CRMs' appreciation of why aspects of work could not be changed as much as helping identify aspects of work that could.

"They feel like they are being listened to more and where things can't be changed - they have an understanding that it has been looked at and reasons why. And where it can be changed we are looking at how that can be done." Jennie, Team Manager Collections

It should be noted that the principle source of evidence of the effects of participation in decision making was derived from the experiences reported by team managers. Whilst CRMs recalled being involved in the process and generally felt it gave them chance to have their say, the evidence of a positive cognitive effect through better decision making, and a positive affective effect through participants feeling more involved was less apparent in their accounts. So whilst there is evidence that managers' attitudes, values and knowledge were positively influenced by the management training and SRA process, it is less clear that this was the case with CRMs.

7.2.2 Change in Individual Resources

With participation in the management training and SRA process having appeared to have some degree of influence in attitude, values and knowledge, the focus groups examined how this had

translated into increased individual resources that that would help them cope with the pressure of their work. The CRMs' experiences identified the importance of social support from both team managers and their peers in the development of resources to help them cope with the pressure of their work. Whilst Support is one of the six Management Standards assessed within the SRA, it was not evident from the focus group discussions or from the SRA document review that the SRA process had any substantial influence on this. The focus groups did however capture how the nature of social support provided by managers and peers differed, and how also it was influenced by the nature of the working environment in the Contact Centre and in Collections.

7.2.2.1 Manager Support

In both departments the team managers played an important role in providing support on work-related issues that CRMs may have resulting from the calls being handled ('work support'). The ability to provide work support was contingent on two factors: the managers' knowledge of CRM work, and their availability to provide support. In Collections the level of work support provided by team managers was more limited, mainly through lack of knowledge of their CRM's work, however the level of support with personal, non-work issues ('personal support') was more evident.

A team manager's knowledge of CRM work came from two sources: experience of having been a CRM prior to becoming a manager, and from regularly handling calls in support of the team. In the Contact Centre a number of team managers had progressed their careers from being a CRM, meaning most had a good working understanding of the nature of calls and the pressure of high volume call handling. Without the pressure of handling high call volumes, team managers in Collections were called on less regularly to directly support the team through handling calls themselves. From the CRMs' perspective their manager's lack of knowledge meant that the work support they provided was limited. Team managers were variously described as being 'out of touch' or 'not having a clue' as a result of the time since they last took calls either in support or prior to becoming a manager.

The availability of team managers was also an important factor, more specifically their presence and visibility within the working environment. Team managers sat in the same pod of desks as their CRMs so when they were at their desk they were close enough to their team that they could observe the team at work, monitor current call volumes and assess the need for support. This visibility and presence in the team was in itself a positive demonstration of support, communicating to the team that everyone was in it together. Team managers were conscious of the need to be available and the impact that not being present had on team members when, for example, they are attending meetings:

"I think it's across the Contact Centre that visibility is very, very important. And a lot of people are aware who's around and who's not. And I'll be honest, I get told a lot, they say 'Terry we know you're really, really busy, and we know that you're always here and there' and it's true, but it's not right though. I shouldn't be here and there, I should be there. At my desk. Answering their questions." Terry, Contact Centre Team Manager

In general team managers were highly regarded by their CRMs for the personal support they provided, particularly those in Collections. They were approachable to their team members, making time to listen and discuss problems. There was a common belief that their managers did a good job in providing personal support and that this helped them feel supported in their work. However the demanding nature of providing personal support to CRMs was evident in its effect on managers both in terms of the time it took up and the emotional demand it placed on them. The close relationship that managers built with team members meant CRMs were open with their personal issues, wanting emotional guidance, support and understanding. This presented a conflict between the value that CRMs placed on that type of support, and the emotional burden and time demands it placed on team managers:

"I'm surprised how needy staff are... it's like Jeremy Kyle. You get divorce, you get abortions, you get illness, you get everything. And that's just last month." Alan, Collections Team Manager

“Today alone, I only came in at 12 o’clock so I’ve been here what 3 hours and 50 minutes, I’ve already had 4 separate private conversations with somebody needing to talk to me on a personal level.” Bea, Collections Team Manager

In both the Contact Centre and Collections therefore, the team managers played an important role in supporting their team members, yet the nature of that support differed in each area. The high volume of calls handled in the Contact Centre did not easily allow opportunity for either work or personal support, yet work support and the perception of a manager’s presence, availability, and visibility were vital components in helping CRMs cope with the pressure of high volume, prescriptive call handling. Higher levels of employee turnover in the Contact Centre created career progression opportunities that meant that team managers generally had recent contemporary experience of a CRM’s work that was maintained by the need for them to directly support their team with handling calls. In contrast the lower levels of turnover in Collections meant managers’ knowledge of CRM work was more limited, restricting the work support they could give CRMs, however with less time constraints than the Contact Centre they had more flexibility and opportunity to provide personal support.

7.2.2.2 Peer Support

The importance of social support from peers was seen clearly in the differences between the working environments in Collections and the Contact Centre, with both scenarios influenced by time, call volumes, and staff turnover. In Collections there was a strong emphasis on peer support, with a high level of task discretion allowing opportunities for social interaction between team members. Peer support in this environment was as much about non-work conversation such as television, news, family life, and sport, as it was about work support. This social support network was enhanced by the lower levels of staff turnover in CRMs in Collections that had allowed relationships and friendships to establish and build over time. The strong bonds that existed between team members was evident in the way they talked about the people they work with and how important those people were to the satisfaction they got from coming to work:

"What I most like about the job is my work colleagues, my team, we're all friends we see each other outside of work. My friends keep me here, not necessarily the job, but my team. We all help each other with personal issues. We're very lucky that way."

Eileen, CRM Collections

"We don't have a big turnover of staff in our department so we've all known each other quite a few years so we've become friends as well as colleagues."

William, CRM Collections

In contrast the high volume, time-poor nature of the working environment in the Contact Centre resulted in CRMs being isolated from their peers. The intensive nature of inbound call handling, with every stage timed, monitored and scored put pressure on CRMs to limit the time between tasks to become available again, ready for the next call:

"We don't have time, we never finish a conversation because you always get a beep in your ear, next call! And you never ever finish that conversation and you can remember what you were talking about? You can see from the telecaster how many calls are available, so you finish your call, if you haven't got a call straight away you can see you might, might, have a minute [laughs] to talk to someone. There's been days when I don't speak to anybody." Adele, CRM Contact Centre

This limited the opportunity for peer support, both in terms of work and personal issues. As such there was limited expectation that team members were in a position to support each other. Whilst there was a sense of frustration at this situation, this was coupled with a feeling of resignation that the very nature of the job meant that there was little alternative:

"I can't say being part of a close team helps you cope with it because you're just there to do your job. It's just one call after the other, after the other, and you just need to do what you're there to do. So I can't really say any of our colleagues on your team are going to help you with it, because they're in the same situation as I am." Melissa, CRM Contact Centre

The impact of this and the high level of staff turnover in the Contact Centre resulted in an absence of the strong social network and bonding that CRMs in Collections felt. The limited

opportunity to engage socially with colleagues, to get to know them, understand their character and personalities, and build friendships appeared to remove an important aspect of job satisfaction reported by Collections CRMs:

"You just come in, do it, and then you go. A colleague asked me a question just as I started work and it took me an hour to get space to answer it." Gaynor, CRM Contact Centre

It was evident therefore, that the most important resources that individuals drew on to help them cope with the pressure at work was the social support they received from managers and peers. However there was no evidence that the intervention influenced the level or nature of this support.

7.2.3 Changes in Working Procedures

To be successful in reducing work-related stress and improving psychological wellbeing, the intervention ultimately needed to result in changes to working procedures. Qualitative analysis of the SRA documentation and activity levels within each of the action research cycles provides a strong indication as to how the intervention was implemented in practice. The focus group experiences identified two dominant themes that influenced participants working lives during the intervention's implementation period. Firstly the overriding characteristics of high volume call handling and performance monitoring, and secondly the large increase in workload resulting from an adverse weather event that occurred in the second micro implementation cycle.

7.2.3.1 *Intervention Exposure*

A qualitative review of the SRA documentation considered the strength of evidence in the documentation that each stage of the SRA process had been completed. Evidence was ranked as being strong/moderate/weak/none depending on the extent to which issues and actions had been captured in the process. The coding of the SRAs was then compared with the focus group hot nodes to determine whether the process had captured similar stressors that were reported by the participants in the focus groups (see Appendix 17, figures 51-54). This analysis facilitated the evaluation of how well each manager had implemented the SRA process by T2, with five

of the nine managers in the Contact Centre and four of the eight managers in Collections judged to have implemented the SRA process appropriately.

The qualitative review of the SRA documentation showed a spectrum of compliance and process quality, with some evidence that some managers had used the process to identify issues of concern, and then identify and implement actions to address these. For instance a number of display screen equipment and working environment issues were identified, as a result new chairs and desk arrangements were provided. Similarly where concerns existed regarding the communication of call scripts changes, there was evidence of changes to team briefings to include these. In another example, insufficient work support from floor walkers was identified, with the action plan specifying how this would be provided and that it had been completed. However, the evidence from other examples of SRA documentation showed that where issues were identified, insufficiently detailed action plans were developed or the concerns appeared to have been ignored. For instance concerns regarding call timings in one SRA were addressed by saying nothing would change. Similarly another action plan contained actions such as 'communication' and 'training', without any detailed as to what the action entailed. In another example, concerns regarding monotonous work had an action identified to open up mixed duties to all CRMs, however there was no evidence that this action had been completed.

7.2.3.2 Action Research Cycles

With all the qualitative data coded to the timeline of each action research cycle, the density of intervention activity was plotted using a coding matrix produced in NVivo10 to indicate the enduring nature of the intervention through the macro cycle and the subsequent two micro cycles, see figure 28.

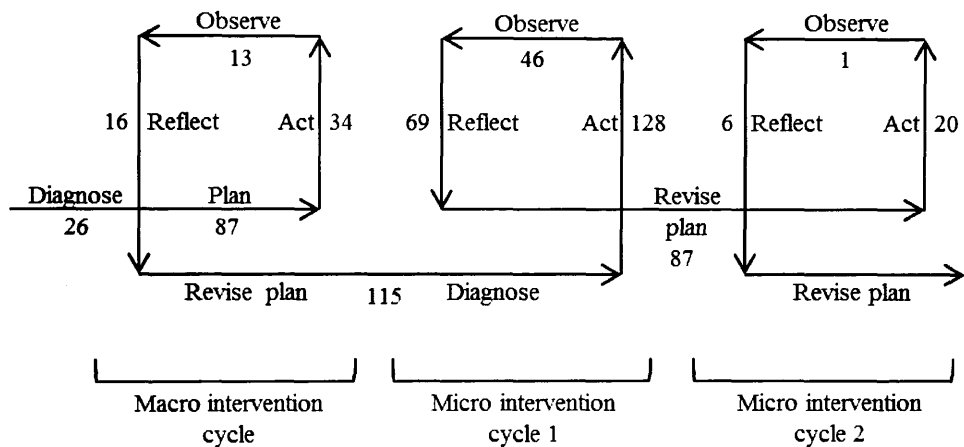


Figure 28 – Action research cycle coding density

This analysis clearly indicates that there was a large reduction in SRA activity at the end of the first micro intervention cycle. This coincides with the adverse weather event in August 2014 which had a disruptive effect on ServiceZone’s business-as-usual activity. In particular the focus group experiences highlight the reduction in team meetings which previously teams had used to review their SRA.

Taken together with the analysis of intervention exposure, the SRA appears to have been used effectively through its first cycle until around June 2014. At this point the process seems to have stopped into the second cycle largely due to the large increase in workload as a result of the adverse weather event. As such the process evaluation indicates that any effect of the intervention would reduce after the first cycle, with any benefits accrued in the first cycle potentially lost through the high workloads resulting from the adverse weather event.

7.2.3.3 High Volume Call Handling and Performance Monitoring

Working life as a CRM was dominated by process, with every aspect of work governed by time and quality. For CRMs working in the Contact Centre this was especially true. This environment was dominated by high volumes of inbound calls that had to be handled in accordance with a script of questions and statements. Each call was timed, with each CRM's performance monitored against the average handling time (AHT) achieved across a number calls handled over a given timeframe – at the time of the study the target for AHT was 6 minutes and 30 seconds. In addition to AHT, call quality performance was also monitored and measured in relation to compliance with the script. This resulted in a natural tension between AHT and call quality, in that handling calls more quickly can impact on call quality. Finding the optimum level between the two was an aspect of work that CRMs find particularly challenging:

“It’s hard to balance your average handling time with your quality as well. There’s so much we need to get in with calls with not necessarily little time but some calls it’s hard to get that average handling time to hit that and get everything you need into a call. So it’s very hard to balance both and maintain both every time.” Iftaq, CRM Contact Centre

Underlying this tension was a strong sense of injustice regarding the approach taken to measuring both AHT and call quality. The calls received in the Contact Centre varied in nature and complexity, yet all calls handled counted towards AHT. For instance a call regarding a meter change could take over 10 minutes, yet payment calls could be handled in around 3 minutes. With CRMs taking calls on a ‘next available’ basis this created a lottery for CRMs as to which type of call they get next.

Call quality was assessed and scored by the CRM's Team Manager and reviewed in the one-to-one meeting between the two. Call recordings were replayed with the manager coaching the CRM on how the call was handled, the questions that were asked and the responses that were given. Whilst this allowed managers to provide coaching advice to CRMs it did not replicate the pressure of the live working environment where split-second decisions by the CRM were

required. The impact of AHT and call scoring on the pressure that CRMs felt in their work was evident. Each CRM's performance statistics were circulated to them at two hourly intervals throughout the day. If the statistics indicated that their AHT was above the target time then this would have a detrimental effect on the CRMs, adding to the pressure they felt they were working under. Conversely if the statistics showed a good level of performance this resulted in the CRM having positive feelings of self-esteem and self-efficacy. However the negative impact of not achieving the AHT target had a powerful effect:

"And some days you know if you've been talking a long time on the phone to customers, and you get your stats through at half 10, you get them through again and half 12. I know if my stats come through at half 10 and they're high I feel a knot here and it's constantly there. And then you're getting long calls after and you're not getting any short ones. It's that pressure. And there's been some days when I've come into work knowing that my handling time is quite bad and I've sat in't car thinking 'I don't want to go in there, I really don't want to go in there'. And it shouldn't be like that, if I'm doing my job to the best of my ability it should be all that counts... but if you have a good day its other way isn't it?" Adele, CRM Contact Centre

In contrast to the Contact Centre, CRMs in Collections did not have the same pressure relating to call handling. Call volumes were lower and there was more of a mix of inbound and outbound calls, which allowed for a degree of task discretion and autonomy. Typically this might mean a CRM was on the phone for around 4 hours per day, with some days involving little phone usage. However Collections did experience high call volumes from time-to-time and appeared to be less effective at coordinating resources to meet the demand than the Contact Centre.

In both departments performance was monitored and linked to financial incentives. Scores for AHT, call quality and other factors were all assessed to determine whether a CRM had 'achieved'. For CRMs in both areas, the perception was of a binary system of 'achieved' or 'not achieved' that did not, in their view, reflect the effort that had gone into their work or the complex nature of customer needs:

"You're expected to do so much and you just feel so pressurised and then come the end of quarter people don't get the achievements. You just feel as though you've done all that and then at end of the day I'm not getting anything for it." Martin, CRM Contact Centre

At no point did the CRMs complain about the principle of having their performance measured through either AHT or call quality. Rather it was the perceived unfairness of the methodology that ServiceZone was using and its corresponding effect on financial reward that was at issue:

"You have to be giving a 100% for every second of the day or else you're just not a good worker. And there's like no scale between being an absolutely useless member of staff and a brilliant member of staff. It's either you're brilliant or fuck off." Hayley, Contact Centre CRM

It was clear the call handling work, particularly high volume inbound calls placed a high degree of pressure on call centre employees. In reality the aspects of the working environment they complained about, however, did not necessarily relate to taking calls. In fact many talked positively about the intrinsic job satisfaction they got from working in a dynamic, fast paced environment where they are fixing customers problems. To that end their job had a high personal value with clear positive outcomes. Their issues appeared to relate to how the work was planned, distributed, measured and scored, together with the consequent financial impact on them.

There was limited evidence that the intervention successfully influenced the working environment or the nature of a CRM's daily work. Whilst they reported an active participation in the intervention, there was limited evidence in their accounts that better decisions were made or that they felt better about their work as a result.

7.2.3.3 Adverse Weather Impact

When in August 2014 the adverse weather arising from the remnant of Hurricane Bertha hit the UK, the CRMs in the Contact Centre were at the centre of impact on ServiceZone's business and experienced first-hand the very high call volumes that ensued. To make matters worse this

coincided with lower resource levels due to the summer school holidays and seasonal staff turnover, and an existing backlog of work:

"You just knew it was going to be busy all day didn't you, so you never get a break all day. Occasionally we might get some [time] if wasn't too busy, an odd minute here and there..." Annabel, CRM Contact Centre

"It was just hectic, I said to a number of people you know I've never known quite a period. As soon as you come in was constantly busy, busy, busy. Red light, escalation just..." Martin, Contact Centre CRM

Compounding the effect of the high workloads was the reduction in opportunities for breaks and quieter moments that would usually be seen during the day. The regular one-to-one meetings between the team manager and CRM were reduced in length. Breaks and one-to-one meetings created an opportunity for CRMs to get away from the pressure of the working environment for a period of time as well as providing an opportunity for work support from the team manager, and social interaction with other colleagues. With these opportunities reduced, CRMs were further exposed to the high call volumes.

In addition to the impact on the Contact Centre, the crisis also had a direct effect on CRMs in Collections. The ServiceZone leadership team invoked its Team ServiceZone plan which drew together a pool of CRMs from Collections to assist in helping meet the Contact Centre's additional call volumes. This meant a number of CRMs from each team in Collections would be deployed on various days through the week to take Contact Centre calls, whilst being sat at their normal desk in Collections. Some additional training was provided, and a number of CRMs had recent experience of Contact Centre work having previously worked there or undertaken overtime. However without detailed knowledge or recent experience, those CRMs not used to the nature of the calls or the intensity of call volumes found this particularly challenging.

More fundamentally the Team ServiceZone response generated a sense of unfairness and injustice from the CRMs who felt that as a system it appeared only to work one way, in that Collections were always required to help the Contact Centre but that it did not happen the other

way around. This feeling was exacerbated by the impact on the remaining CRMs in Collections of having team members redeployed to take Contact Centre calls. This generated under-resourcing in Collections that meant the work volume for remaining CRMs was higher. With redeployed CRMs sitting within their own teams they experienced first-hand the additional pressure this put on their colleagues:

"When you're so focussed on recovering Collections, I know it's an awful thing to say and we should be one big happy company, you're not really bothered about the Contact Centre because what you saw was your colleague struggling to cope with the calls that were coming in for Collections." Rosanne, Collections CRM

From the team managers' perspective, they were required to manage existing workloads with less resource yet maintain and communicate the company message about everyone pulling together to meet the crisis. As a result they too felt the sense of unfairness and injustice regarding the resourcing priorities demanded by the crisis response:

"Team ServiceZone doesn't exist in terms of what it's meant to be. I'm struggling to say 'you help me, you help me tomorrow' because we help them every day. There's nothing coming back. You'll get all this 'we're fantastic we're all working together'. Well no not really, we're not." Alan, Collections Team Manager

The evidence from CRMs and team managers in both areas was that the adverse weather had a huge impact on workload and pressure right across ServiceZone. Call volumes were beginning to return to a normal business-as-usual level by the time of the focus groups which were undertaken 2 months after the crisis began.

In summary, there was little evidence that the intervention materially influenced the overwhelming nature of the call centre's working environment, a situation that was further exacerbated by the impact of the adverse weather event.

7.2.4 Leadership Team Feedback

At the end of the study a presentation was made to the ServiceZone leadership team with practitioner recommendations drawn from the study's findings (see appendix 21). Following

this I asked individual members of the team to provide a short summary of the value of the study to ServiceZone, particularly its practical outputs to the leadership team. Their feedback provides a strong indication of the value of the study and its findings to them as a team:

“Your work has also been a valuable contribution to allow us to reflect as a team on the unintended consequences of some of our actions as leaders in the business - that many decisions and communications based on sound business decisions could sometimes contribute negatively to this problem.” Head of Collections, ServiceZone

“A key theme for the contact centre agents is Average Handle Time and how stressful our colleagues feel. Although I have wanted to change this measure for some time, I didn't appreciate the impact it has on their health, and their ability to deliver great service, it was so interesting to understand the difficult position we place our people in when we ask them to say one thing but feel completely different.” Head of Customer Service, ServiceZone

“I believe the benefits for the leadership team are a heightened, more detailed, understanding of the culture at ServiceZone in terms of what motivates colleagues, how they feel about their work and how both internal and external pressures impact their wellbeing. I think the leadership team already knew much of this but you have been able to substantiate it for them and make it very factual moving away from any assumptions that may have existed. I think the results of your study will stay with them for some time and be something they regularly refer back to when driving the organisation forward and planning for the future.” HR Business Partner, ServiceZone

This feedback provides an important contribution to determining the effectiveness of one of the key aspects of an action research study in that it makes a meaningful contribution to practice. As Zuber-Skerrit and Fletcher (2007, p423) determined, ‘the results of [action] research are valid and reliable if they are recognisable to the people involved in the research, even if not necessarily to others’.

7.3 Personal Reflexive Account

One of the aims of the two-stage action research framework was to guide the role of the researcher as the intervention implementation moved from macro to micro implementation. In practice I felt my role change from that of guiding the final development of the intervention to then collaborating with managers and their teams as they implemented it. This shift from independence to collaboration presented me with a challenge of needing to let the participants implement the SRA cycles in their own way without me interfering, yet guide them when they had questions or queries, or needed direction. This became a delicate balance as for some managers it became clear they were not implementing the SRA in sufficient depth or detail to result in any meaningful change in the psychosocial conditions of their employees. This presented me with a dilemma, do I assertively intervene to guide a better outcome at the expense of interfering with the natural process of implementation, or do I let the process run and capture the natural effect of the intervention. In reality I found my role operated somewhere in the middle. For example one manager sent me a copy of their SRA documentation after the first cycle which demonstrated that for the first four sections of the form it had been completed in some detail. However the remaining sections were incomplete and none of the actions identified had been consolidated into an action plan on the front page. The feedback I offered to them praised them for the good work they and the team had done on part of the document but suggested this should be followed through to the rest of the document at the next review meeting. The final version of the document had not progressed any further in the second cycle. As a result I was able to capture data regarding the barriers to the natural implementation of the SRA as experienced by that manager.

As I progressed into the focus groups my role moved back towards an independent role of researcher. Having been closely involved in the intervention and the working environment for a number of months I had to forcibly detach myself from what I already knew about the workplace and concentrate on what the focus group participants were actually saying as they related their own experiences and interpretations. I had to make a conscious effort not to steer

the direction of each focus group and allow the participants themselves to express their own views in an unconstrained way. As I transcribed the focus group recordings this became easier for me to interpret what was being said as I combined the actual words being spoken with their intonation and tone to capture what I saw as the true meaning. Whilst this still implies that the interpretation of the data is viewed, to an extent, through the prism of my own perspective I was confident that the analysis accurately reflected the participants views.

My independence and distance from the data then became even clearer as I synthesised the qualitative and quantitative data. I particularly found that the objectivity present in the quantitative data helped me maintain a degree of objectivity when examining the themes that emerged from qualitative data. This approach ultimately shaped the development of the thesis, particularly the key themes that emerged from the secondary analysis and data synthesis, the presentation of the results, and the subsequent discussion of their significance and contribution to knowledge.

7.4 Data Synthesis and Secondary Analysis

Whilst the quantitative results showed no evidence that the intervention influenced work-related stress or psychological wellbeing, the analysis undertaken for hypotheses 1 and 2 indicated that participants that were exposed to the intervention had lower work-related stress and better psychological wellbeing – although this was not due to the intervention itself. This suggests that there is another factor influencing work-related stress and psychological wellbeing that is somehow connected to how well the intervention was delivered.

Synthesising this with the qualitative results, in particular the participants' experiences captured in the focus groups, indicated the important role that managers play in supporting their teams with both work and non-work stressors. As such it was hypothesised that this support would be the positive factor influencing the participants' psychosocial working conditions and their psychological wellbeing. Relating this to hypotheses 1 and 2 suggests two further hypotheses can be tested with the data collected:

Social support from managers will reduce call centre employees' work-related stress (Hypothesis 5).

Social support from managers will increase call centre employees' psychological wellbeing (Hypothesis 6).

7.4.1 Hypothesis 5

Social support from managers will reduce call centre employees' work-related stress.

Building on the results of the independent-samples t-tests and mixed between-within groups ANOVA undertaken for Hypothesis 1, a series of linear regression tests were undertaken to examine the influence that manager support had on each of the other work stressor variables. The results, shown in tables 36 & 37, indicate that Manager Support explains a statistically significant level of variance in each of the other 5 variables, as follows:

For Demands, 11.4% variance is explained by Manager Support $F(1, 119) = 15.50, p < .001$, $\beta = .34, p < .001$. This can be expressed in the model:

$$\text{Demands} = 3.020 + (0.25 * \text{Manager Support})$$

such that:

As Manager Support increases by 1 SD (.96), Demands increases by .34 SD (.24)

For Control, 15.4% variance is explained by Manager Support $F(1, 119) = 21.83, p < .001$, $\beta = .39, p < .001$. This can be expressed in the model:

$$\text{Control} = 1.25 + (0.44 * \text{Manager Support})$$

such that:

As Manager Support increases by 1 SD (.96), Control increases by .39 SD (.42)

For Peer Support, 47.5% variance is explained by Manager Support $F(1, 119) = 108.49, p < .001$, $\beta = .69, p < .001$. This can be expressed in the model:

$$\text{Peer Support} = 1.90 + (0.57 * \text{Manager Support})$$

such that:

As Manager Support increases by 1 SD (.96), Peer Support increases by .69 SD (.55)

For Role, 43.2% variance is explained by Manager Support $F(1, 119) = 91.33, p < .001$, $\beta = .66, p < .001$. This can be expressed in the model:

$$\text{Role} = 2.47 + (0.50 * \text{Manager Support})$$

such that:

As Manager Support increases by 1 SD (.96), Role increases by .66 SD (.48)

For Change, 56.4% variance is explained by Manager Support $F(1, 119) = 155.23, p < .001$, $\beta = .75, p < .001$. This can be expressed in the model:

$$\text{Change} = 0.50 + (.75 * \text{Manager Support})$$

such that:

As Manager Support increases by 1 SD (.96), Change increases by .75 SD (.72)

From this analysis it is clear that Manager Support is positively associated with employee work-related stress.

As such **hypothesis 5 is supported.**

7.4.2 Hypothesis 6

Social support from managers will increase call centre employees' psychological wellbeing.

Informed by the results of the independent-samples t-tests and mixed between-within groups ANOVA undertaken for Hypothesis 2, a linear regression tests was undertaken to examine the influence that manager support had on psychological wellbeing. The results, shown in tables 36 & 37, indicate that Manager Support explains a 8.8% variance in psychological wellbeing, $F(1, 119) = 155.23, p < .001, \beta = .75, p < .001$, with psychological wellbeing improving as manager support increases.

This can be expressed in the model:

$$\text{Psychological Wellbeing} = 6.86 + (-1.11 * \text{Manager Support})$$

such that:

As Manager Support increases by 1 SD (.96), Psychological Wellbeing increases by .30 SD (1.07)

From this analysis it is clear that Manager Support is positively associated with employee psychological wellbeing.

As such **hypothesis 6 is supported.**

Table 36

Means, Standard Deviations and Intercorrelations for Demands, Control, Peer Support, Role, Change and Psychological Wellbeing, and Manager Support Predictor Variable (n=122)

Variable	M	SD	Demands	Control	Peer Support	Role	Change	GHQ-12
Predictor Variable								
Manager Support	3.83	0.96	.34***	.39***	.69***	.66***	.75***	-.30***
Dependent Variables								
Demands	3.98	0.71						
Control	2.92	1.06						
Peer Support	4.09	0.79						
Role	4.38	0.73						
Change	3.36	0.96						
Psychological Wellbeing	2.61	3.59						

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 37
Hierarchical Regression Analysis Summary for Manager Support Predicting Demands, Control, Peer Support, Role, Change and Psychological Wellbeing

Dependent Variable	B	SE B	β	R ²	95% CI ^a	
					Lower	Upper
Demands	0.25	0.06	.34***	.11***	.12	.39
Control	0.44	0.09	.39***	.15***	.26	.62
Peer Support	0.57	0.05	.69***	.48***	.42	.71
Role	0.50	0.05	.66***	.43***	.39	.60
Change	0.75	0.06	.75***	.56***	.62	.87
Psychological Wellbeing	-1.11	0.33	-.30**	.09**	-1.70	-.45

* $p < .05$, ** $p < .01$, *** $p < .001$.

a - based on 1000 bootstrap samples unless otherwise noted

7.5 Confirmed Theoretical Model

With hypotheses 1 and 2 not supported it was clear that a SRA, built around participatory principles, did not reduce call centre employee work-related stress or improve their psychological wellbeing as measured in the output evaluation. The focus group experiences did, however, produce evidence that managers and team members observed affective and cognitive benefits from participating in the SRA process. However these benefits did not translate into a significant reduction in work-related stress or improvement in psychological wellbeing. As such the study's final theoretical model, with participation in decision making removed, is illustrated in figure 29.

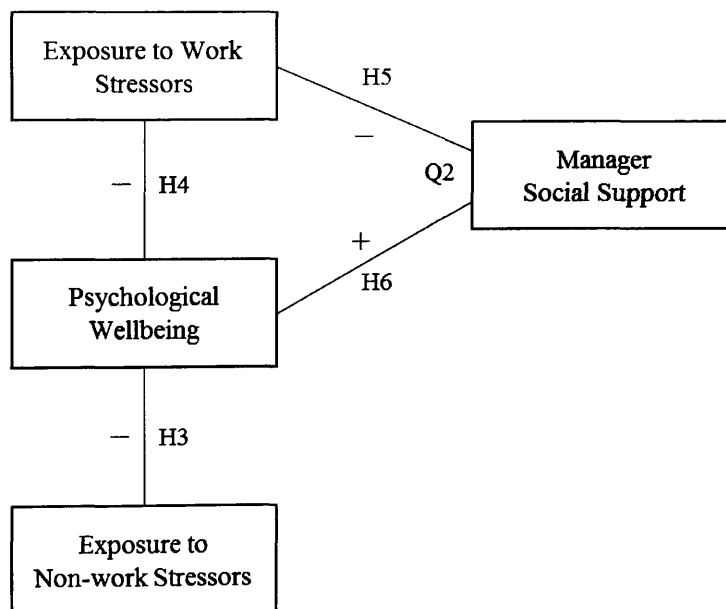


Figure 29 – Final Theoretical Model for Stress in Call Centres

The positioning of this model within the theoretical frameworks for stress, social support and call centre work will be explored in the Discussion, together with a review of the intervention's implementation and the performance of the action research framework.

Part 5

reflect

1. think deeply or carefully about

Chapter 8 - Discussion

This study set out to investigate an organisational intervention for stress for employees working in a call centre. In doing so it has provided insight into a number of aspects of call centres as a working environment as well as the challenges of implementing and researching organisational interventions for stress in this type of working environment. In discussing the study outcomes, the chapter begins by evaluating the success, failure or otherwise of the intervention as determined by the testing of hypotheses 1, 2 and 4 and the first research question that considered the effect of employee participation. This is followed by an appraisal of the action research framework used to guide the research and intervention design. The study's four principle findings are then considered; the dominant influence that non-work stressors had in influencing psychological wellbeing evidenced by the testing of hypothesis 2; the protective influence that managers had through the provision of social support that emerged in secondary analysis of hypotheses 5 and 6 and additional research question; the effects of social isolation that call centre employees had in the course of their work again considered in the second research question, and finally the psychosocial impact of different types of call centre work evidenced in the testing of hypotheses 1a and 2a. The chapter concludes with a consideration of the study's contribution to knowledge and practice, a personal critique of the research study with informed hindsight, my own learning experience, what I see as the study's strengths, weaknesses and implications for future research and practice.

8.1 The Intervention – Success or Failure?

The levels of work-related stress measured in the sample throughout the study compare favourably with other organisations in the wider normative sample, with one exception – the level of job control and task discretion that participants had. The results of this study therefore indicate that the intervention had to address causes of work-related stress in a moderate-demands low-control psychosocial environment.

Measured simply by the quantitative outcome measures the intervention implemented in this study failed. There was no support for hypothesis 1 or 2 that examined whether a stress

intervention incorporating participatory principles would reduce employee work-related stress or improve their psychological wellbeing. Were that the extent of the evaluation the discussion might then go on to speculate as to why it might have failed. However this study's mixed methods approach incorporating process evaluation was specifically designed to help determine whether the intervention's success, or indeed failure, was as a result of its design or its implementation (Nielsen and Randall, 2012). Both qualitative and quantitative data collected across the study's entire timeline, mapped to each macro and micro action research cycle provided a complete picture of the intervention's implementation process and its outcome, helping determine whether it was a success, a failure, or indeed both.

These data were generated through the life of the study from multiple sources to provide an understanding of the intervention's context, implementation and mental models (Nielsen and Randall, 2013). This identified a high level of senior management support and buy-in for the intervention at an early stage. There was strong evidence through the early involvement of leadership team members, team leaders and wider ServiceZone support functions, such as HR and Occupational Health, that the macro intervention stage helped develop the final intervention design and implementation strategy. This early participation helped to optimise the intervention's person-intervention fit and environment-intervention fit ahead of implementation and increased its exposure across the organisation (Biron and Karanika-Murray, 2014, Nielsen et al., 2010a, Randall and Nielsen, 2012). As the intervention was then implemented, the training course evaluation provided good evidence of effectiveness as managers returned to their teams to implement the SRA in the first micro implementation cycle with quantitative and qualitative analysis showing a high-level of initial implementation by managers. As such the intervention appears to have been implemented as designed through the macro cycle and into the first micro cycle.

However, having established a basis for change the intervention appears at this point to have failed to translate a change in attitudes, knowledge and development of resources into material changes in working procedures and working conditions. The evidence from the SRA

documentation provides inconsistent evidence that the managers and teams identified meaningful actions that would translate into a substantial change in psychosocial working conditions. Whilst the best examples identified actions that attempted to resolve issues that aligned to those raised in the focus groups, such as the tension between AHT and call quality, the worst examples were often incomplete and appeared to provide only 'tick box' compliance with the SRA process. It is little surprise therefore given the demanding nature of the call centre working environment that the intervention had little effect.

The process evaluation also highlighted two substantial factors that effected implementation. The first is the high level of staff turnover in the intervention group in the six months between T1 and T2 and the following six months between T2 and T3. An even more dramatic factor that affected the intervention's implementation was the adverse weather event of August 2014 which resulted in a large scale disruption in all parts of ServiceZone's business. The effect of this is seen in the qualitative analysis of activity in the second micro intervention cycle which showed SRA activity completely drying up. Taken together it is clear that the intervention's effectiveness was affected by inconsistent management application, large employee turnover in the periods T1-T2 and T2-T3, and was disrupted substantially by the impact of the adverse weather event at the start of the T2-T3 period. These wider organisational effects (Nielsen et al., 2010b) further contributed to the intervention's failure to influence participant work-related stress or psychological wellbeing as identified in the quantitative output evaluation.

The qualitative aspect of the process and outcome evaluation, through participant experiences captured in the focus groups, provided some evidence that the participatory principles embedded into the SRA did benefit managers and CRMs, both in terms of the cognitive effect and the affective effect of participation (Miller and Monge, 1986). However this evidence is admittedly weak and one-sided, biased as it is by the views of managers, and whilst it does provide an indication that the intervention's design, particularly its emphasis on participation, had a good person-intervention fit (Randall and Nielsen, 2012) care must be taken not to place too much emphasis on this as evidence of the intervention's success.

Closer examination of the intervention's environment-intervention fit is therefore required, particularly the four levels that determine a good level of fit of the intervention to its organisational context (Randall and Nielsen, 2012). Whilst the intervention appeared to meet the first two, the participants' immediate working environment and that of the team they work in, it failed to fit with the wider organisational environment and social and economic context in which the call centre operates. This failure can be attributed to an inadequate assessment of needs at the macro intervention stage, despite extensive consultation and consideration of organisation and participant needs. Conducting a detailed needs analysis is an important stage in an intervention's planning, implementation and evaluation framework (Noblet and LaMontagne, 2009) to ensure that a comprehensive understanding of relevant issues that can be addressed or accommodated in an intervention's design. This can be achieved by undertaking a broader situational analysis to identify strengths and weaknesses (French et al., 2005) using a multiple methods approach combining checklists, questionnaires and pre-existing data analysis (e.g. Doherty and Manfredi, 2006, Kompier et al., 2000), with qualitative based diagnostic methods such as focus groups, semi-structured interviews, and problem solving workshops (e.g. Aust and Ducki, 2004, Kohler and Munz, 2006).

Influencing the organisational environment and social and economic context would have required a more fundamental level of change in the intended action research outcomes. As illustrated in figure 5, change that 'involves basic reorientation and restructuring of the system constitutes Gamma changes' (Chisholm and Elden, 1993, p284) as opposed to the less basic Alpha changes that the locally implemented SRA was designed to affect. Had a Gamma level of change occurred then key organisational parameters such as average handling time targets, overall resource levels, or call quality measures would have been altered or amended.

Whilst it is not clear how much of the failure is due to fundamental problems with intervention's design, in particular its theoretical underpinning and participatory mechanisms, a more thorough examination of the organisational context at the macro intervention stage might have resulted in a better adapted design. Alternatively it might have confirmed the intervention was

doomed, the ‘inevitable consequence of attempting to intervene in a complex functioning organisation’ (Randall and Nielsen, 2012, p123). Either way, such is the support in the literature for the intervention’s participatory principles that it would be wrong to reject its design principles purely on the basis of this study.

8.2 The Action Research Model

The study deployed a new two-stage action research framework that synthesised a number of theoretical models relating to action research and process evaluation. Building on Lewin’s original concept for action research, the model proved to be a robust framework to guide the study from its early design stage through implementation and into evaluation and data analysis. In particular it helped me as the researcher locate, recognise and comprehend my role in the study in relation to the other actors, the data collected, and the subsequent interpretation of that data.

At its heart the two stage macro and micro intervention cycles, adapted from Chisholm and Elden’s (1993) action research continua and Cassell & Johnson’s (2006) action research definitions, proved an effective method for shaping the intervention with hierarchical participant input, then delivering the intervention with wider participant input through the two micro intervention stages. Defining the study’s position on the continua helped anchor the location of the study in relation to its level of change, complexity, and hierarchical influence. This helped keep the study focussed on meeting its objectives. As the researcher, the model helped guide the transition from the macro intervention stage, where the process of intervention design was largely determined and researcher dominated, to the subsequent micro intervention stages where the implementation was largely invented as a collaboration between the study participants and the researcher.

In essence use of a theoretically informed framework provided the basis to determine whether the study represented good action research that resulted in sound emergent theory. Returning to Eden and Huxham’s characteristics of action research for management research provides the basis to consider the validity of the study’s findings. It is clear that the study, guided by a

framework that incorporated these characteristics, had a good fit with this model. In particular the explicit concern for theory in each aspect of the research design and intervention design provided a robust basis to evaluate the intervention's outcome. Similarly the robust nature of data collection and analysis, using process evaluation techniques, has provided insight into the intervention that would not have been possible using other means. In addition to their research contribution, the study's findings have provided practical outputs to guide those responsible for the working environment used in this study, and in similar environments farther afield.

Despite its success, the interaction of research data and action processes requires greater clarification in the framework. In this study the detailed quantitative and qualitative data analysis was not completed until after the intervention cycles had been completed, yet with hindsight the results may have been instructive to managers deploying the intervention. The use of research data in real time, however, presents a number of practical and ethical difficulties. Firstly, the data is obtained with strict promise of privacy and confidentiality, such that aggregation of data to a level that would be useful to managers, i.e. that of the team, would breach this undertaking. Secondly, it is unlikely that the collection and analysis of research data following each micro implementation cycle would be responsive enough to feed back into action processes in a meaningful way. Thirdly, such ongoing analysis would be cross-sectional and therefore miss any longitudinal effects. Finally, the resource demands to quickly analyse and report on the large amount of data generated will be beyond most studies, particularly a doctoral study.

In summary, the criteria for defining quality action research synthesised from the literature by Zuber and Skerritt (2007) provides an good yardstick to assess the framework used in this study, in that it was (i) practice orientated, (ii) participative through the involvement of everyone affected by the research, (iii) focussed on a significant issue to myself as the researcher and the wider community, (iv) used rigorous research methodology and contributed something new to theory and practice, (v) was explicit in its assumptions, and (vi) has been reflective, critical, self-critical and ethical. With that in mind the two-stage framework has successfully guided the

study to produce findings that, in an action research sense, are internally and externally valid and provide a high degree of authenticity.

8.3 The Predominant Influence of Non-work Stressors

The study's findings clearly show that non-work stressors had a predominant influence on the psychological wellbeing of the call centre staff. Study participants that reported having non-work stressors had significantly worse psychological wellbeing than those where non-work stressors were absent. The comparison of means and logistical regression both indicate that non-work stressors had around a three times greater influence on psychological wellbeing than work stressors. Putting this in context, there was a higher prevalence of poor psychological wellbeing in both male and female participants than would be found in the local population. Whilst psychological wellbeing can be found to be poorer in occupational studies (Goodwin et al., 2013) it does not detract from the predominant influence of non-work stressors on psychological wellbeing found in the study.

8.3.1 Understanding Non-work Stressors

In addition to considering which has the greater influence on psychological wellbeing, it is important to consider whether work and non-work stressors exist independently, or are somehow inter-connected. A number of theories have been developed to explore this relationship. For instance, the segregation theory (Lambert, 1990) posits that a person's experiences in one aspect of their life is independent of another, suggesting no relationship between work and non-work stressors. Whilst there is some support for this model (Edwards and Rothbard, 1999, Frone et al., 1992, Hart, 1999), it is the more widely accepted spillover theory that provides an understanding of the relationship, suggesting that a person's experiences in one aspect of their life spill over to impact on other aspects of their life. Studies have shown that family and work life are both interrelated and interdependent (Adams et al., 1996, Warr, 1987, Williams and Alliger, 1994) as such employees' lives do not exist in a vacuum but are influenced by every aspect of the environment that they live in. Similarly resources available to them in one area of their life will be available to help them cope in other areas of their life

(Kendall and Muenchberger, 2009). This fits well with the experiences reported in the focus groups by the team managers, who are routinely called on to support their employees in the workplace with a wide range of non-work stressors.

The apparent conflict between work and family life that the spillover theory implies, suggests a directionality where one can impact on the other. Netemeyer et al (1996) conceptualised this as Work-Family Conflict (WFC) and Family-Work Conflict (FWC), where both are distinct but related forms of inter-role conflict. In this construct the ability of one domain to impact on the other is governed by role demands, the time devoted to a particular role, and the strain produced by that role. For call centre employees, whose work is physically tied to telephone and computer systems, work cannot be taken home, as such FWC provides a principle source of spillover through juggling home and work time commitments and through the stressful consequences of family life (Hyman et al., 2003). This is supported by an implied directionality in the three questions comprising the Non-work Factor indicator used in this study: that participants could not cope with issues in their personal life, felt issues away from work were affecting their health, and thought that coming to work was an escape from personal issues. FWC has received less attention in the literature in comparison with WFC (Boles et al., 2001), despite evidence that sources of conflict are increasing through more women entering the workplace, an increase in single mothers and dual-income couples, and increased levels of elderly caring responsibilities (Boyar et al., 2005, Entricht et al., 2007). FWC has been found to be associated with depression (Wang et al., 2012) and job satisfaction (Calvo-Salguero et al., 2011), with family stressors, such as household tasks, childcare availability, and marital tension, being more influential than work stressors (Fox and Dwyer, 1999, Frye and Breaugh, 2004). However without an accepted categorisation of non-work stressors there is limited evidence as to the prevalence or influence of one type of stressor over another. Where the Management Standards typology used in this study helped show that job demands and job control were the principle work stressors, no comparable view of non-work stressors can be determined. An added complexity is the dual role played by some non-work factors in being both a stressor and source of support. For instance domestic relationships have been found to be both strong predictor of psychological

distress when they fail (Fuhrer et al., 1999), and contributor to positive psychological wellbeing when they are successful (Escribà-Agüir and Tenías-Burillo, 2004). The focus on the primacy of one particular stressor, however, can be misleading. Rather it is the increased exposure through an accumulation of stressors, in line with the additive burden model (Dohrenwend and Dohrenwend, 1981), that influences poor psychological wellbeing, with each stressor making a unique and independent contribution (Clark et al., 2012, Hasselberg et al., 2014).

8.3.2 Supporting Employees with Non-work Stressors

Despite the predominant effect of non-work stressors, this study did provide evidence of a direct effect of work stressors on psychological wellbeing, therefore it remains beneficial for organisational interventions to continue to focus on managing work-related stress (Clark et al., 2012). However there is clearly a benefit in implementing interventions designed to support employees with issues affecting them away from the workplace. DeFrank and Cooper's (1987) conceptualisation of stress interventions identified that those focussed on the individual (e.g. relaxation, cognitive behavioural therapy, exercise) have predominantly individual benefits, with those focussed on the organisation (e.g. structures, training, physical environment) having predominantly organisational benefits. Comprehensive workplace health promotion programmes should therefore encompass a balance between organisational- and individual-level interventions (Bond, 2004, Noblet and LaMontagne, 2006) so that 'the preventative benefits of the former can have a widespread impact across an organisation, whilst the curative strengths of the latter can target those fewer people who have already succumbed to ill-health' (Bond, 2004, p147). LaMontagne et al (2014) present this as an integrated approach comprising three elements: the protection of psychological wellbeing through reduction of exposure to work stressors, the promotion of psychological wellbeing by developing positive aspects of work, and support for employee mental ill-health irrespective of causation. Two UK employers provide good examples of this more holistic approach. McDonald's Wellbeing programme adopted an integrated approach that featured organisational aspects, including flexible working, safety, and personal development, alongside individual aspects such as dietary advice, financial

advice, physical activity, and volunteering (Blundell, 2011). Similarly the Royal Mail Group's systems approach to workplace mental health featured an organisational stress management programme alongside individual support through counselling and emotional support, and Cognitive Behavioural Therapy (CBT) (Wang et al., 2011).

The positive focus on developing employee strengths and capabilities draws on the emerging field of positive psychology that emphasises a preventative approach to ill-health through the development of resilience, personal resources and competencies (Seligman and Csikszentmihalyi, 2000, Gable and Haidt, 2005). At an individual-level, the development of positive individual characteristics can be achieved through interventions such as CBT, which is designed to empower individuals to moderate their emotional and behavioural response to perceived stressors. Where CBT has been included in stress management programmes, it has been found to have positive effects on psychological wellbeing and in reducing stress (e.g. Gardner et al., 2005, Hawkins et al., 2007, Lucini et al., 2007, Mino et al., 2006, van der Klink et al., 2003). Indeed CBT has been found to have beneficial effects with a wide range of illnesses, disorders and life situations such as chronic illness (Kwakkenbos et al., 2014), mood disorder (Stubbings et al., 2013), Post-Traumatic Stress Disorder (Fredette et al., 2016, Shemesh et al., 2011), panic disorders (Pier et al., 2008, Vos et al., 2012), alcohol dependence (Kalapatapu et al., 2014, Longabaugh and Morgenstern, 1999), Lupus (Navarrete-Navarrete et al., 2010), Parkinson's disease (Dobkin et al., 2011, Richardson and Marshall, 2012), and Multiple Sclerosis (Gottberg et al., 2016, Graziano et al., 2014). Many employers provide access to CBT as part of an employee assistance programme (EAP) alongside conventional counselling and emotional support. This can be accessed irrespective of causation, indeed EAPs typically provide support to employees on mainly non-work matters (Highley-Marchington and Cooper, 1998). It was interesting to note in discussions with the CWG occupational health team that its EAP is accessed extensively by ServiceZone employees for support with predominantly non-work matters.

Whilst employers might not naturally see non-work stressors as relevant to them, the consequential impact on their business through increased sickness absence and loss of productivity occurs irrespective of whether the cause is work-related or not. The ServiceZone leadership team was correct in its perception that non-work factors were a predominant cause of stress for its employees. Knowing that is the case creates the opportunity to provide support for employees struggling to cope with issues away from the workplace.

8.4 The Protective Influence of Managers

The study's findings from both qualitative and quantitative data analysis show the protective effect that managers have on employees' work-related stress and their psychological wellbeing. Across all stressor categories participants receiving higher levels of manager support had lower levels of work-related stress. Although it would have been a positive outcome for the study to show that this was due to the intervention, in reality this was a situation that existed prior to implementation and continued largely unchanged throughout the study's 12-month timeline. Had the study only utilised quantitative methods the question of why manager support had this effect would have gone unanswered. However the manager and CRM contribution to the focus groups provided valuable insight into why social support was such an important factor.

The source of social support in the workplace can come from managers as well as co-workers and peers. Whilst peers have been found to provide more support, manager support has been found to be more important in terms of its negative effect on stressors and strain (Ganster et al., 1986, Marcelissen et al., 1988). A hierarchy of magnitude of strength of effect of support on strain places the managers ahead of peers and then friends/family (Dormann and Zapf, 1999, Fenlason and Beehr, 1994). The level of work support provided by managers has been found to be a strong predictor of employee psychological wellbeing (Bennett et al., 2001, Kendall and Muenchberger, 2009, Stansfeld et al., 1997b, Stansfeld et al., 2013) and where social support is provided by managers it has been found to have a protective effect on psychological wellbeing (Clark et al., 2012, Sawang, 2010). Social support from managers can be provided as esteem

support, informational support, social companionship and instrumental aid (Cohen and Wills, 1985).

It is therefore clear that the nature of a manager's approach to leading a team has an important influence on the team members. In particular a transformational leadership style (Bass, 1985, Bass, 1998), characterised by a manager with vision, acting as a role model, having consideration for individuals, empowering and developing team members, and setting high expectations, has been found to have a positive effect on wellbeing (Alimo-Metcalfe and Alban-Metcalfe, 2001, Nielsen et al., 2008, Sosik and Godshalk, 2000). In an extensive study of the management competencies that influence psychosocial working conditions, Lewis et al (2012) were able to further refine the key aspects of good management: being respectful and responsible; having integrity; managing their own emotions; communicating effectively; managing difficult situations; and 'managing the individual within the team' (p225). The behavioural traits comprising this last point, that a manager is sociable, personally accessible and empathetic, are supported by the findings of this study. There was evidence in this study that managers were aware of the need to effectively match the type of support to their employees' needs, particularly providing functional support, comprising informational aid and information support, to team members undergoing personal crisis. However the level of support a manager was able to provide was principally governed by two factors, their job knowledge and their availability, with both of these factors influenced by the distinct working environment in the Contact Centre and in Collections. Contact Centre managers had typically been CRMs with contemporary knowledge of the job, however the dynamic nature of the work meant opportunities to provide for social support were limited. Conversely time pressures were less evident in Collections, ensuring managers were more available to provide social support, however with lower levels of turnover and progression to management roles, managers had less contemporary knowledge of the job.

Focus group participants talked at length about what they liked and disliked about the support they got from their manager, most of them considering themselves to work for a good manager.

Indeed the proportion of CRMs working for supportive managers was higher than those that did not. Whilst the participants might appreciate having a manager who was available to help them, who had good technical knowledge, or took the time to help with personal problems, they perhaps did not appreciate this study's findings that their working day was less stressful and their psychological wellbeing was better as a result of working for such a manager.

8.5 Social Support and Isolation From Peers

As the focus group data was collected it quickly became apparent that one of the principle differences in working environment between the Contact Centre and Collections was the level of social support CRMs received from peers in each area. The relentless nature of handling high volumes of inbound calls created little opportunity for Contact Centre CRMs to spend time communicating about either work or non-work matters. In contrast the higher level of task discretion that CRMs in Collections enjoyed created opportunities for them to communicate and provide assistance to each other. Whilst the additional hypotheses focussed on the support managers provide to employees, the role of peer social support and particularly the effect of peer isolation for employees working in close proximity is an important finding of this study.

Peer social support is provided through the establishment of workplace friendships which have largely positive benefits for both organisations and individuals (Sias et al., 2012b). These friendships provide emotional and instrumental support to individuals, aiding intrinsic reward, buffering sources of job stress and reducing job dissatisfaction (Kram and Isabella, 1985, Sias and Cahill, 1998). At an organisational level co-worker friendships result in increased levels of employee participation, increased career development opportunities, enhanced commitment (Rawlins, 1992) as well as improved morale and increased levels of creativity (Yager, 1997) and reduction of employee turnover (Bertelli, 2007, Maertz and Griffeth, 2004, Maertz et al., 2012, Moynihan and Pandey, 2008). Work friendships develop a sense of cohesiveness, providing meaning, a feeling of belonging and a sense of identify (Moos, 1986, Pratt, 2000), as 'employees who are the object of co-workers' caring and concern increase their direct

attachment to such co-workers, and through them, indirect attachment to their organization' (Mossholder et al., 2005, p609).

Where barriers exist to the formation of friendships, as the isolation that Contact Centre CRMs experience implies, the benefits to both individuals and organisations are lost. Forcing workplace friendships is not an option for employers however, as they 'cannot be imposed on people; it is an ongoing human association voluntarily developed and privately negotiated' (Rawlins, 1992, p9). Instead organisations need to provide the right work environment to facilitate the individual and contextual factors that lead to the formation of friendships (Zajonc, 1968). The factors combine to guide three stages of the development of friendship (Sias and Cahill, 1998): from acquaintance to friend; from friend to close friend; and from close friend to almost best friend. The initial stage of friendship formation relies on a close proximity to co-workers and collaboration on shared tasks, with personality and perceived similarity playing a key role. Once established, friendships can develop further with increased discussion on work and non-work topics, decreased caution, increased intimacy and socialising outside work. The importance of proximity and communication then continues into the relational maintenance strategies that preserve friendships over time (Madlock and Booth-Butterfield, 2012, Sias et al., 2004, Sias et al., 2012a).

These models of friendship formation, however, largely predate the influx of electronic communication, such as email, video conferencing, and instant messenger systems, into the workplace. This has resulted in employees relying on electronic communication with co-workers that are often in the same location, a concept defined by Quan-Haase & Wellman (2004) as 'local virtualities', in that employees communicate with each other simultaneously, locally and virtually. As a result employees often communicate electronically regardless of the distance between them, resulting in work practices that change a person's perception of time and space (Sias et al., 2012b). At the same time the influence of social networking has removed the need for personal acquaintance in order to become someone's friend (Sias et al., 2012b).

Perhaps then, the face-to-face isolation of Contact Centre CRMs from their peers need not be a barrier to forming friendships; other approaches may be as effective.

In reviewing the earlier mechanisms for friendship formation Sias et al (2012b) found important similarities and differences in the model as a result of the influence of new communication technology. They found that personality, perceived similarity and the opportunity to undertake shared tasks remain as central factors in friendship formation, despite reduced social presence and proximity. Although proximity had become the least important factor, face-to-face interaction remained the most used and most valued method of communication for workplace friends. Electronic communication had not replaced face-to-face interaction but had supplemented it, such that 'people like and need face-to-face interaction to initiate and maintain friendships, but they do not need to work near each other to engage in that action' (Sias et al., 2012b, p274). This provides the basis for organisations like ServiceZone to introduce measures to help build friendships that fit with the nature of the business that they are operating. For ServiceZone this might mean creating opportunities for face-to-face interaction as part of an induction programme for new starters or provide social spaces away from the working environment where employees can meet. As the nature of the job creates peer isolation that limits opportunities for synchronous communication, asynchronous electronic systems such as chat rooms and message boards might help CRMs maintain friendships in spite of the physical isolation. Similarly the opportunity for CRMs to take part in a wider range of shared projects would help build informal networks and minimise the sense of isolation (Sias et al., 2012b).

8.6 Working in a Call Centre

The mixed methods deployed in the study provided a unique insight into working life in a call centre. Whilst the quantitative analysis provided evidence of a moderate-demands low-control environment, the participants' own experiences present a picture of a typical high-demands low-control setting found in other call centre studies (Holman, 2002, Karasek, 1979, Sprigg and Jackson, 2006). The qualitative analysis also provided a rich description of working life in a call centre and the impact this has on the employees working there. In particular the impact of

the asymmetric nature of performance measurement that requires a high quality of call handling delivered in a minimal timescale was identified by this study's participants, as in others, as a prominent stressor (e.g. Deery et al., 2002, Holman et al., 2002, Sprigg et al., 2003). The importance of manager support in mitigating the effect on employees was identified in previous quantitative studies (Deery et al., 2002, Frenkel et al., 1998, Holman, 2002), however the synthesis of quantitative and qualitative findings in this study allowed the influence of managers to be quantified and better understood in relation to the work support and personal support they provide. Furthermore the focus group findings revealed the importance of a manager's knowledge and their availability as important factors in their ability to provide support.

In relation to understanding the psychosocial effect of working in a call centre, this study's most important finding is the insight it provides into the varying types of call centre work, showing that the intensity of call centre work in relation to time pressure exists on a spectrum, as illustrated in figure 30. In ServiceZone the Contact Centre is towards one end of the spectrum that is dominated by high volume, incessant call handling that provides little opportunity for task discretion for employees. Towards the other end is the Collections area, where call handling is predominantly outbound and therefore less intense, providing more discretion for employees on how and when they undertake their work. The position on this spectrum dictates much about how call centre work impacts on the psychological wellbeing of employees through the principle commodity of time. In its most basic sense, time is the factor that places pressure on employees, however it also dictates the availability of managers and employees to engage in social support as well as influencing the opportunity that peers have to initiate and maintain friendships that are important in providing social support between peers. Despite this, a high-demands low-control psychosocial environment had a lower effect on psychological wellbeing in comparison with that of non-work stressors. It might be that the aspects of call centre work participants find rewarding have an additional protective effect, given that for many the job can be rewarding, provides challenge, and there can be an inherent job satisfaction from helping people (Deery and Kinnie, 2002, Frenkel et al., 1998).

peers had a big influence on how they feel about coming to work. With non-work stressors having a greater influence on psychological wellbeing than work stressors, call centre operators like ServiceZone might find an important source of support for employees with non-work stressors comes from their peers.

8.7 Contribution to Knowledge and Practice

With this study I sought to make a modest contribution to a gap in the knowledge relating to the effectiveness of an organisational intervention for work-related stress incorporating participatory principles. In particular I hoped to generate evidence in support of the Management Standards approach. Although the intervention failed to influence work-related stress and psychological wellbeing, the learning taken from the process evaluation of its implementation provides an intriguing insight into the challenges of implementing an organisation intervention for this purpose. In particular by providing an explanation of the failure of participatory principles that are widely espoused in literature relating to stress, intervention design, and action research, I have provided insight to others on the limitations of this approach when used in a setting influenced by high employee turnover, time pressure, and extraordinary external events. My use of mixed methods contributes to an organisational intervention literature that is dominated by studies featuring only quantitative methods. Similarly my use of process evaluation techniques captured data from multiple sources throughout the study lifecycle over multiple time points. In contrast, Havermans et al's (2016) recent systematic review of process evaluation used in 44 stress management intervention studies found that in most cases process variables were only measured at a single point in time, typically post-evaluation, and at an individual participant level. In addition, a theoretical framework for measurement and evaluation was only used in around half the studies. My study's approach, therefore, is in line with a recent call for future studies of organisational interventions for stress to incorporate an integrated approach to evaluating intervention process and outcomes (Kompier and Aust, 2016)

Beyond this primary aim, the study also makes a small contribution to knowledge through a new understanding of three other areas. Firstly, the predominant influence of non-work stressors has not been defined or quantified elsewhere in the literature, with this study providing fresh insight into their influence, their relationship to work stressors, and their impact on psychological wellbeing. This could be an important contribution for employers who, when designing future organisational interventions, can give consideration to helping employees cope with issues beyond the employer's direct control. Secondly, the protective role of managers has not been quantified previously in relation to its effect on work-related stress and psychological wellbeing. This research shows that this extends beyond job design and into contextual aspects of work. Perhaps more importantly it pinpoints a manager's work knowledge and availability as crucial components of the social support managers provide, factors not identified elsewhere in the literature. Finally, in relation to the psychosocial working environment in call centres, the study highlights the consequential effect of a time pressure continuum on task discretion and opportunity for social support. This expands on the literature's consensus view that call centres adhere to high-demands low-control characteristics, allowing for a more dynamic consideration of how call centre employees can be supported to work in that kind of environment.

Beyond the study's theoretical contribution, my work in developing the two-stage action research framework makes a contribution to knowledge through its unique combination of a number of theoretical concepts into research method framework. Through its conference paper dissemination it has already made a contribution to knowledge in this area.

The study also makes an important contribution to practice, through the generation of practitioner recommendations. Developed from the study's factual and conceptual findings, and subsequently informed by the literature considered in chapter 8, these were presented to a meeting of the ServiceZone leadership team at the end of the study. With these my intention was to provide suggested practical measures that the team could consider. The presentation, included in Appendix 21, included the following recommendations:

Manager Support

- Ensure Team Manager recruitment processes include selection criteria designed to identify manager's ability to provide social support
- Provide development programmes to develop social support skills in current team managers where additional capability requirement is identified
- Provide support programmes for managers to cope with the demand of providing pastoral support to employees coping with non-work stressors

Peer Support

- Provide opportunities for face-to-face contact to help new starters initiate team friendships
- Provide opportunities for collaborative working on common projects
- Consider provision of online asynchronous communities to facilitate CRM communication on work and non-work matters

Non-work stressors

- Review employee wellbeing programmes to prioritise support for employees coping with non-work stressors

Work stressors

- Continue to review impact of high-demands/low-control as aspects of the call centre working environment, particularly in the Contact Centre

8.8 Critique of Research

At the end of my doctoral journey I took the opportunity to reflect on my learning experience. The three and half years it took me to complete the study, from the first meetings with ServiceZone, through the study design, to intervention implementation through three action research cycles over 18 months, gave me much to reflect on. Two fundamental questions have occupied my thoughts as I reflect on the study. Firstly, had I determined the predominant influence of non-work stressors prior to finalising the intervention design, would, or indeed

should, I have amended the design to try to reduce their impact on participant psychological wellbeing? It is true that with hindsight I perhaps could have evaluated the T1 survey data immediately following collection to better understand the influence of non-work stressors. As has been discussed my rationale for not doing this was based on ethical and logistical constraints. Beyond these, however, as the title of the study suggests, its primary focus was always work-related stress. The creation and inclusion of non-work stress indicator questions in the survey was purely in response to the leadership team's assertion that, from their perspective, non-work stressors were more influential than work stressors. My expectation following informal experience of the call centre environment during the macro implementation stage was that work stressors would play a dominant role in participants' psychological wellbeing. As such the leadership team's observation felt like a good example of the difficulties identified by LaMontagne et al (2012) of getting organisations to address organisational sources of ill-health: that proximal causes such as lifestyle are more evident than distal, organisational causes, and as such are easier to blame. Clearly the findings of the study reject this. That said, given the prime focus of the study was on work and the working environment, attempting to address non-work stressors would have been outside the research boundaries I had established for the study.

My second fundamental question related to how the study had performed as an action research study, specifically how would another research paradigm have performed differently given the same circumstances? Given the use of mixed methods in this study the performance of a single methods approach, whether positivist using quantitative methods or interpretivist using qualitative methods, can be anticipated. To me, this study's most valuable insights came from the rich understanding I got of what it was really like to work in this call centre. A pure quantitative study, positioning me more neutrally as the researcher and testing only hypotheses, would have lacked this level of understanding, developing instead only an objectivist view of the intervention. Similarly a pure qualitative study would not have provided the certainty that was required to determine the intervention's outcome. That said, this study was afforded the

luxury of a 12-month longitudinal timeline that facilitated the use of mixed methods in a data intensive action research approach. More constrained research opportunities collecting cross-sectional data at a single time point might favour the choice of quantitative truth over qualitative understanding to meet the study's primary objective. The focus of my reflection therefore switches to how my chosen approach could have been enhanced to meet the challenges it faced. In particular the need to ensure a better environment-intervention fit to take account of the wider organisational environment and call centre's social and economic context. In hindsight insufficient understanding of the organisation was obtained in the macro implementation cycle and thus the intervention design failed to fully take account of these factors. The inclusion of an ethnographic pre-study stage to the research, utilising participant observation, would have provided this understanding and ensured the intervention design process was more fully informed. For the purposes of a doctoral study this would have extended the timeline and data collection beyond an acceptable level, however for intervention studies more generally, this approach would be worth considering if time and resources allow.

Methodologically this study presented me with a number of challenges along the way, from the technically mundane nature of delivering online surveys using another organisation's IT infrastructure, to the organisationally demanding challenge of organising, managing and analysing the large volume of data an action research study generates. Whilst most of my decisions were well planned out, such as the participant ID system that accurately tracked sample changes through the study timeline or the indexing of every statistical test result, a few were influenced by luck, both good and bad. The adverse weather events in particular had a hugely disruptive effect on the study, delaying the third survey and forcing the rescheduling of the focus groups. At the time this felt like a hammer blow to the study's objectives, however it quickly became apparent that it merely provided an unforeseen opportunity to observe the effect of such disruption on those directly affected. Similarly the high employee turnover in the Contact Centre was initially disheartening, until I realised that this was an inherent part of the story. Despite this turmoil, my study proceeded reasonably smoothly, I had high response rates

to each survey, sufficient to generate high statistical significance in the study's findings, and high participation in the focus groups, sufficient to achieve theoretical saturation. In that respect, the fact that this study made it to the end of its timeline is in large part down to the commitment of the ServiceZone leadership team to find out more about how their people worked.

Further reflection on the study reveals a number of strengths and weaknesses that required consideration alongside its findings. Its principle strengths centre on the research design that used mixed methods and process evaluation techniques to provide a comprehensive view of the intervention's implementation. As such taking the quantitative and qualitative results together we are presented with a complete picture of the process of implementation and the consequential end result. The synthesis of quantitative and qualitative data provided additional insight that enabled hidden aspects of the study to be uncovered, such as the effect of manager support and different types of call centre work. The study provides a good example of how rich insight derived from qualitative methods complements quantitative methods, offering 'room for exploration, catering more to the practical nature of the applied research setting of interventions in which fewer factors can be controlled than in a laboratory setting' (Havermans et al., 2016, p378). Each of the study's key findings, relating to non-work stressors, manager support, peer isolation and the call centre environment, are therefore supported by the results of data analysis that have a high level of statistical significance. Similarly the study's action research design provided the ability to map key features of the design on to a theoretically-underpinned action research framework, providing me as the researcher with confidence that the study design was sufficiently robust.

Despite the study's strengths, its main limitation, as with any action research study, is that its findings are strongly connected to the particular context in which it is set, in this case a particular call centre environment. As such caution must be applied when generalising the study's findings to other settings, for instance when considering if non-work stressors are as influential in other work settings or if manager support is as important in other high-demands low-control work settings. Ultimately this study set out to examine the effectiveness of an organisational

intervention for work-related stress and it is clear that the intense change-driven nature of the setting, further disrupted by the major effect of the adverse weather event, had an adverse impact on the intervention's intended implementation process. Therefore the unique nature of this work setting and circumstances limits the extent to which the principles of the intervention's design can be judged as either a success or a failure.

8.9 Implications for Future Research and Practice

Despite its limitations, I believe the study has important and interesting implications for research and practice. With regard to future research, the study's two-stage action research framework provides the basis for other researchers to investigate the effectiveness of an organisational intervention, particularly guiding the use of process evaluation techniques. The study's use of mixed quantitative and qualitative methods provides a good example of how such an approach can uncover hidden aspects to the study that would otherwise go undiscovered. Furthermore this framework helped evidence that a particular action research study has a scientific basis and can generate robust emergent theory comparable with other approaches.

With regard to practice, in addition to the specific recommendations made for the study's host organisation a number of more general themes will be of interest to practitioners. Principally the predominant influence of non-work stressors may prompt others to give consideration to this aspect in their own setting, which in turn may help inform design choices leading to more integrated holistic stress management programmes. Similarly the protective influence of managers in relation to the psychological wellbeing of their employees may inform wider consideration of the methods for recruiting and developing managers, particularly in high-demand low-control settings where social support appears to play an important mediating role. Finally the recognition of the importance of the support that peers provide to each other may help inform the design of employee communication and engagement mechanisms in settings with similar levels of isolation, such as those with remote and peripatetic employees.

Chapter 9 - Conclusion

This chapter concludes my study with a reminder of the study's purpose and intentions and a concise summary of its factual and conceptual findings, hypotheses and propositions. It considers the reliability, validity and generalisability of these findings and closes with a review of the study's original objectives and thoughts on an agenda for future research in this area.

My investigation of the effectiveness of an organisational intervention for work-related stress began as an extension of my personal journey as a safety and health practitioner witnessing the effect of stress management policies in the workplace. At the core of these policies was the HSE's Management Standards approach that appeared to provide a straightforward approach for managers to simplify an otherwise complex area of risk management. Yet my anecdotal experience did not appear to be supported by wider evidence of the effectiveness of the Management Standards approach at managing work-related stress. As such my study set out with a set of clear objectives to assess the effectiveness of an intervention for work-related stress and in doing so contribute evidence of the Management Standards approach. My choice of a call centre appeared to provide an ideal research setting for the study, with a largely homogeneous workforce undertaking similar jobs in a self-contained working environment that was large enough to facilitate a quasi-experimental design. As such the research boundaries were clearly defined; this study would examine the factors influencing psychological wellbeing in a call centre and the effect of an organisational intervention. The use of an action research approach to position the research and intervention design was pivotal in guiding design choices and positioning my role as both the researcher and intervention facilitator. This placed me in a privileged position at the heart of the intervention implementation over the study's 18 month timeline, allowing me to witness first-hand the real-life working environment and interactions that directly influenced the intervention's outcome. The development of the two-stage action research framework that combined a number of theories relating to action research, process design and intervention design, provided the foundation to guide every stage of the study, from initial research and intervention design, through data collection, to data analysis, synthesis and

theory development. In particular the choice of process evaluation to differentiate between the intervention's outcome and process success was instrumental in guiding and interpreting the study's findings, with both qualitative and quantitative data combining to provide a rich understanding of the intervention and the setting in which it was deployed.

9.1 Study Findings

The study's intervention failed to influence either employee work-related stress or psychological wellbeing. Whilst there was evidence from participant experiences of the intervention that there were some affective and cognitive benefits from its participatory approach, these did not translate into improvements in work-related stress or psychological wellbeing. The process evaluation provided insight into this failure, indicating that the implementation failed to translate a change in attitudes, belief and knowledge into meaningful changes in psychosocial working conditions, principally due to a combination of inconsistent management implementation, the high level of employee turnover, and the effect of the adverse weather event half way through the implementation period. Non-work stressors were found to be around three-times more influential than work stressors on psychological wellbeing, with participants with poor psychological wellbeing reporting a higher work-related stress.

The data synthesis process revealed a number of secondary findings relating to the importance of social support in the work place. Manager support was found to influence each work stressor such that having a supportive manager reduced demands, control and change stressors, increased role clarity and improved support from peers. The quality of manager support was influenced by a manager's work knowledge and their availability and visibility in the workplace. Both manager support and peer support were influenced by the time pressure inherent in call centre work.

9.2 Conceptual Conclusions

Bringing these factual findings together allowed me to develop a number of conceptual conclusions from the study.

The predominant influence of non-work stressors on psychological wellbeing was the most surprising finding of this study for me as a researcher. With much of the literature focussed on the influence of work stressors and the interaction and spillover between work and non-work stressors, little focus had been given to the influence of non-work stressors in their own right. Such was the dominant nature of their influence in this study that future consideration of how to manage work-related stress might be viewed as being rather secondary in importance and slightly missing the point. Given the universality of non-work stressors in everyone's lives it is possible that similar levels of influence on psychological wellbeing might be found in employees working in other settings, particularly in similar demographic workforces that comprise of a large proportion of young employees with 'chaotic lives'.

Social support from managers is widely reported in the literature as having a protective influence on employee wellbeing. This study furthers this understanding by highlighting the varying degrees in which manager support influences different aspects of work, having a lower influence on job content, through job demands and control, but being far more influential in job context. Supportive managers provide increased role clarity, provide better management of change, and facilitate stronger levels of support from peers. The exact mix of this influence would be expected to be dependent on work setting, for instance where higher levels of task discretion allow supportive managers to influence job demands and control. In addition this study identifies that a manager's level of work knowledge and their availability to provide support are critical components in employees feeling supported. As such the role of the knowledgeable, available and visible manager protecting an employee from work-related stress and improving their psychological wellbeing provides a universal concept that would reasonably be expected to be seen in other organisational settings.

In addition to managers, an employee's peers provide a valuable source of social support particularly, as the literature identifies, through formation of friendships between colleagues. This study identifies the barriers to forming these friendships, principally through limitations in time and opportunity for social interaction that are essential for those friendships to initiate.

Indeed time was a critical dimension in the different types of call centre work studied, creating a paradox where high time pressure reduces the opportunity for social support for employees that need it most, both from peers and their managers. Whilst this concept is derived specifically from a call centre setting, it might reasonably be expected to apply in other settings with natural barriers to social support, such as peripatetic employees, those working remotely, and those working in similar time pressure environments such as production line manufacturing.

For a failed intervention built around participatory principles it might seem strange to develop a conceptual conclusion that participatory principles should be central to intervention design. However such is the universal recognition of the need for participation in the intervention design and stress literature that the findings from one study cannot claim to disprove this approach. Indeed, as the process evaluation has shown, there were a number of factors that combine to draw conclusions about the use of participatory principles for intervention design *in this particular setting*. Where high employee turnover and an inherent high-demands low-control job design are present it is reasonable to question the importance of participatory principles in intervention design, particularly when non-work stressors and manager support were found to have a preeminent effect on work-related stress and psychological wellbeing. Conceptually then, the need for participation must be caveated around the organisational suitability and opportunity for it to occur.

Finally, arguably this study's most important conceptual conclusion is the development and testing of a two-stage framework for action research in management research. This provided a robust structure for both the intervention design and the research design, guiding every decision that needed to be made during the study from a theoretically underpinned basis. Perhaps more importantly the framework worked well in practice, facilitating the intervention's action research cycles, the collection of methodologically robust data, and development of theoretical and practical findings.

9.3 Hypotheses and Propositions

With the study deploying mixed methods it naturally involved both a deductive approach to testing theories, expressed as hypotheses, and an inductive approach to developing theories, reflected in its research questions. In presenting these I have taken care to consider the difference between the certainty offered by testing theory deductively, and the supposition provided by the theory developed inductively. As such the hypotheses and propositions are presented separately. From the analysis the following statements can be made relating to the hypotheses tested in this study:

- i. A participatory approach to workplace interventions to reduce stress in call centre employees using a stress risk assessment **did not** reduce employee work-related stress (Hypothesis 1)
- ii. Work-related stress **was** higher in Contact Centre employees than in Collections employees (Hypothesis 1a)
- iii. A participatory approach to workplace interventions to reduce stress in call centre employees using a stress risk assessment **did not** improve psychological wellbeing (Hypothesis 2)
- iv. Psychological wellbeing **was not** lower in Contact Centre employees than in Collections employees (Hypothesis 2a)
- v. Psychological wellbeing **was** lower in call centre employees that were exposed to non-work stressors (Hypothesis 3)
- vi. Reduced work-related stress for call centre employees **did** improve psychological wellbeing (Hypothesis 4)
- vii. Social support from managers **did** reduce call centre employees' work-related stress (Hypothesis 5)
- viii. Social support from managers **did** increase call centre employees' psychological wellbeing (Hypothesis 6)

From the research questions, a number of propositions can be advanced regarding the study's findings. It is important to note that these are not presented with the hypotheses' certainty of truth, however they summarise important inductive findings that provide a basis for further testing. As such for this particular study's research setting it is proposed that:

- a) Employee participation in decision making results in better decision making
- b) Employee participation in decision making improves employee job satisfaction
- c) Manager work knowledge improves employee perception of social support they receive
- d) Manager availability improves the employee perception of social support they receive
- e) Time pressure influences the opportunity for the provision of social support from managers
- f) Time pressure influences the opportunity for the provision of social support from peers
- g) Peer isolation prevents the initiation of workplace friendships

9.4 Validity, Reliability, and Generalisability

The terms reliability and validity in the context of an action research study undertaken in a social science arena must be handled with care. Whilst the study deployed quantitative methods using two standardised measures that have a wealth of evidence of their reliability and validity, their use in a context-bound study of this nature means bold predictions of reliability and validity in a deductive sense are avoided. Similarly statements of generalisability of the findings of action research to other settings need to recognise the specific nature of the setting in which they were produced. However building Eden & Huxham's twelve characteristics of action research into the framework, and then diligently mapping them across to the study's research and intervention design features provides me with the confidence that the factual and conceptual findings are credible, accurately reflecting the intervention's implementation process and outcomes, and the wider research setting. Given their contextual reliance it is entirely possible that these findings are only applicable to this particular call centre, as such the study's practical recommendations provide an important output. However with careful consideration of the

study's limitations, its theoretical findings, particularly relating to the influence of non-work stressors and the protective role of managers, would appear valuable for wider consideration.

9.5 Study Objectives and Agenda for Future Research

Finally in this chapter it seems appropriate to consider whether and how this study met its original objectives. Firstly the study produced reliable evidence that its organisational intervention for work-related stress had no effect on employee health and wellbeing. The experiences of managers and employees examined in the study has provided a valuable understanding of why the intervention was unsuccessful, as well as wider aspects of the psychosocial working conditions in this call centre. As such a clear understanding was obtained about how future interventions can be developed and adapted for use in this type of organisational setting, in the hope they achieve better outcomes. Lastly, although the study failed to generate positive evidence as to the effectiveness of the HSE's Management Standards, it has provided insight into the challenges of implementing an organisational intervention for stress in a fast paced, dynamic working environment such as a call centre where the inherent nature of the work inhibits employee participation and the formation of social support networks.

The development and completion of this study resulted in each of these objectives being met, with varying degrees of success. As such further work is required to fully explore and develop the implications of this study's findings in this research area. Firstly an evaluation of the SRA used in this study in other organisational settings would help determine the influence of a particular work context on the success of an organisational intervention built around participatory principles. In particular one with a more stable environment and lower employee turnover. Secondly, the two-stage action research framework should be tested in other organisational intervention studies within the field of management research. This will provide further evidence of its effectiveness as a framework to guide action research in similar settings. Thirdly, given the predominant influence of non-work stressors on psychological wellbeing reported in this study, further examination of these in other settings would help establish wider evidence of their strength in relation to work stressors. Finally, the use of the Non-work

Indicator developed in this study in other studies would provide further evidence of its robustness as a measure for non-work stressor case identification.

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Appendix 1 – Stress Risk Assessment Pro Forma

Team - _____

Department - _____

Completed by - _____ Date - _____

Action Plan Summary		By who?	By when?
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

This plan should be regularly reviewed with the team

When?					
By who?					

Support

Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues
- Employees unaware of available support
- Lack of communication & consultation
- Failure to celebrate success
- A culture that considers stress a sign of weakness
- Expectation to work long hours or take work home
- Other 'support' issues...

Have any other 'support' issues been identified in team meetings, 1-2-1's, staff survey results etc.?

What measures are already in place to help address these issues?

Local Action Plan

What more can be done at a local level?

What issues need escalating?

How significant are
'support' issues?

L M H

Control Employees have a say in how they do their work

What has significant potential to cause stress?

- Balancing demands of work and life outside work
- Rigid work patterns
- Lack of control over workflow
- Correct level of training for the job
- Lack of development opportunities
- Over promotion
- Conflicting work demands
- Other 'control' issues...

Have any other 'control' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

*How significant are
'control' issues?*

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

Demands Employees can cope with the demands of their jobs

What has significant potential to cause stress?

- Too little time for tasks
- Inadequate staffing
- Boring or repetitive work
- Too little to do
- Inadequate resources
- Ineffective line management
- 3rd party deadlines
- Targets
- Excessive workloads
- Excessive pressure
- Working environment
- Other 'demand' issues...

Have any other 'demand' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

*How significant are
'demand' issues?*

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

What has significant potential to cause stress?

- Lack of clarity of job role
- Confusion over others job roles
- Conflicting demands
- Other 'role' issues...

Have any other 'role' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

How significant are
'role' issues?

L M H

Local Action Plan
What more can be done at a local level?
What issues need escalating?

Relationships Employees are not subject to unreasonable behaviours

What has significant potential to cause stress?

- Poor relationships with others
- Complaints
- Combative or confrontational communication styles
- Bullying, racial or sexual harassment
- Other 'relationship' issues...

Have any other 'relationship' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

Local Action Plan
What more can be done at a local level?
What issues need escalating?

How significant are
'relationship' issues?

L M H

Change Employees are engaged when the organisation undergoes change

What has significant potential to cause stress?

- Poor communication and uncertainty
- Fears about job security
- Not enough time allowed to implement change
- Inexperience/fear of new technology
- Lack of skills for new tasks
- Not enough resource allocated for change process
- Dysfunctional teams
- Other 'change' issues...

Have any other 'change' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

*How significant are
'change' issues?*

L M H


Local Action Plan

What more can be done at a local level?


What issues need escalating?


Appendix 2 – Management Training Material

LANCASTER
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Managing Stress






Introductions


Aims & Objectives

To provide -

- an understanding of what stress is and how it can affect people
- the knowledge required to complete and implement the Stress Risk assessment
- some basic stress management strategies to help you and your team members
- awareness of how to manage an individual case of stress

LANCASTER
UNIVERSITY







Q “Why manage stress?”

Background


Why manage stress?



Financial





Legal



Moral

LANCASTER
UNIVERSITY





Q “Doesn’t everyone need a bit of stress?”

Principles of Stress Management

Pressure

Everyone experiences pressure in the course of their daily lives

Pressure creates a 'buzz' that can be good for people, helping them concentrate, focus on achieving their objectives, and result in them doing a better job

Stress

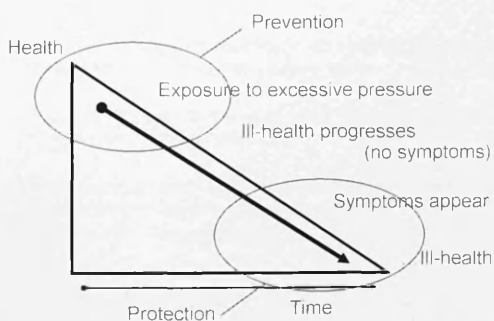
Stress is the adverse reaction people suffer through exposure to prolonged or excessive pressure

It can be accompanied by psychological and/or physiological symptoms that are typically beyond the control of the sufferer.

As such there is **no good stress**



Stress



How, not What

This does not mean:

- not setting targets
- not managing poor performance
- not changing

Its about **how** we do these things



Workplace Stressors

Any workplace factor that contributes to an individual being subject to excessive or prolonged pressure, or other types of demand placed on them.

Categorised within 6 management standards :-

- Demands
- Control
- Support
- Roles
- Relationships
- Change

Case Study 1



"Over the last few months I feel I have been treated unfairly by my manager. There has been real pressure on my area to deliver despite being short-staffed and yet all my manager does is pick faults. Sometimes comments are made about my performance in front of others at team meetings"



Q "Why is the line manager so important?"

The role of the manager

Your role as a manager...

There are a number reasons why your role as a manager can have a huge impact in managing stress.

- You can **prevent** or conversely **cause** stress by the way you behave towards your staff
- Your influence may mean your staff can be **protected** from, or exposed to, stressful work conditions

Your role as a manager...

- Working closely with your team, you are well positioned to **identify** stress in others at an early stage
- You 'hold the key' to the success of **work planning** and in implementing **change** effectively
- You are responsible for undertaking a **stress risk assessment** to identify ways in which the pressure your staff are under can be managed properly.

Case Study 2



"My work area involves my staff working very long hours every quarter to meet regulatory reporting deadlines. I know this affects them but I'm not sure what I can do to help."

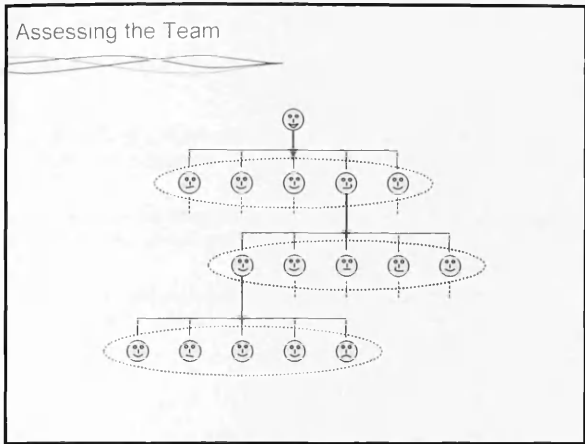
Case Study 3



"I frequently receive emails from my manager sent late at night and at weekends, as such I feel compelled to check and respond to emails at home, on top of other work I seem to end up taking home"



Stress Risk Assessment



Support Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues
- Inadequate resources or available support
- Lack of communication & consultation
- Failure to identify issues
- Failure to address issues when a sign of escalation
- Inadequate to work long hours or late shift hours
- Other support issues

Have any other 'support' issues been identified? If so, what? (If 'No', skip to next page)

What resources are planned to deal with these 'support' issues?

How significant are support issues? (1 M 10)

What issues can be done at a local level? What issues need escalating?

What has significant potential to cause stress?

Support Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues
- Inadequate resources or available support
- Lack of communication & consultation
- Failure to identify issues
- Failure to address issues when a sign of escalation
- Inadequate to work long hours or late shift hours
- Other support issues

Have any other 'support' issues been identified? If so, what? (If 'No', skip to next page)

What resources are planned to deal with these 'support' issues?

How significant are support issues? (1 M 10)

What issues can be done at a local level? What issues need escalating?

What issues have team members identified?

Support Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues
- Inadequate resources or available support
- Lack of communication & consultation
- Failure to identify issues
- Failure to address issues when a sign of escalation
- Inadequate to work long hours or late shift hours
- Other support issues

Have any other 'support' issues been identified? If so, what? (If 'No', skip to next page)

What resources are planned to deal with these 'support' issues?

How significant are support issues? (1 M 10)

What issues can be done at a local level? What issues need escalating?

What is already in place to manage these issues?

Support Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues
- Inadequate resources or available support
- Lack of communication & consultation
- Failure to identify issues
- Failure to address issues when a sign of escalation
- Inadequate to work long hours or late shift hours
- Other support issues

Have any other 'support' issues been identified? If so, what? (If 'No', skip to next page)

What resources are planned to deal with these 'support' issues?

How significant are support issues? (1 M 10)

What issues can be done at a local level? What issues need escalating?

On balance, how significant are the issues/concerns?

Support Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues
- Inadequate resources or available support
- Lack of communication & consultation
- Failure to identify issues
- Failure to address issues when a sign of escalation
- Inadequate to work long hours or late shift hours
- Other support issues

Have any other 'support' issues been identified? If so, what? (If 'No', skip to next page)

What resources are planned to deal with these 'support' issues?

How significant are support issues? (1 M 10)

What issues can be done at a local level? What issues need escalating?

What more can be done at a local level to help? Do any issues need escalating?

Exercise

Select one of the 6 management standards that is particularly relevant to your area or role

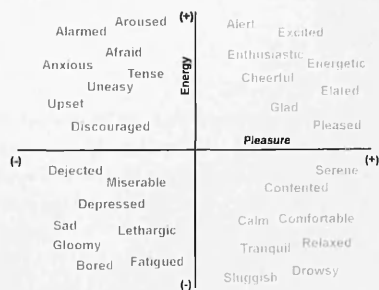
Complete the Stress Risk Assessment identifying existing control measures and categorise the risk level

From the stress management guidance, identify up to 3 additional measures that could be implemented

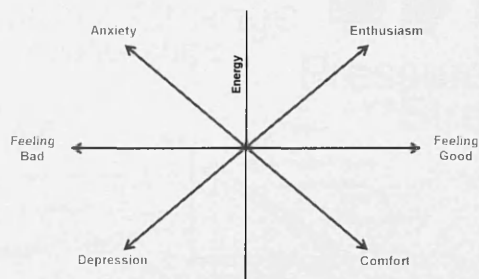


Case Management

Happiness...



Happiness...



Recognising Stress

Emotions irritability, anxiety, lack of sleep, low mood, hypochondria, alienation, family disruptions

Cognitions difficulty in concentrating, remembering, learning, making decisions

Behaviours abuse of drugs, alcohol and tobacco, destructive behaviour, over/under eating

Physiology heart problems, hypertension, muscle pain, weakened immunity, peptic ulcers



Recognising Stress

There are also a number of ways in which you can identify that other people may be struggling to cope with pressure, or are suffering from stress :-

- Increase in absence
- Return to work interviews
- Private discussions
- Medical reports
- Feedback at 1-2-1's
- Individual performance
- Complaints
- Increase in staff tension

Taking action

Q "But what is reasonable?"

Taking action

The decision on what is **reasonable** should be based on the following factors:

- job demands in comparison to others
- significance of the concern raised
- the cost and practicability of additional measures
- wider impact on work of the organisation
- resources available
- potential impact on the health of other employees



Case Study 4



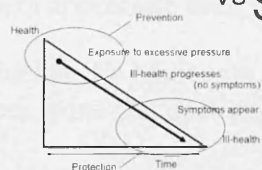
"One member of my team is under-performing compared to the rest. I'm not sure what I can do to manage this without them going off on stress, but I feel I've got to do something as it's affecting the rest of the team."



Support
Demands Roles
Control Change
Relationships



Pressure
vs Stress



What is reasonable?

Aims & Objectives

Do you ...

- understand what stress is and how it can affect people?
- know how to complete and implement the Stress Risk Assessment?
- understand some basic stress management strategies to help you and your team members?
- know how to manage an individual case of stress?



What will you differently after today?

hamilton@lancaster.ac.uk



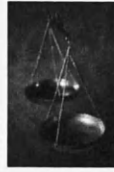
Appendix 3 – Stress Risk Assessment Top Tips

Here are some top tips for putting together a good stress risk assessment with your team:

- 1. Write it out by hand.** Create a mind map of the thought process that has gone into completing it.
- 2. Review it regularly.** Businesses can be cyclical, so the kinds of pressures on staff in January will be different to those in May, or in September. Review the document regularly to ensure it reflects how things are at that time.
- 3. Everyone needs a say.** Make sure everyone has had an input into the document, then it becomes their document as much as it is yours.
- 4. Take issues seriously.** You may not be able to relate to the issues that staff might have, but that doesn't mean they aren't real.
- 5. See the positive.** When it's done well the stress risk assessment can help everyone appreciate what is being done to help staff cope with the pressure of work. Managers often take confidence from this and, in turn, team members appreciate their efforts.
- 6. Get help.** Don't be afraid to ask for help with this, whether it's advice on managing individual cases from HR, or advice on medical aspects from Occupational Health. Everyone is there to help.
- 7. Share your experiences.** Talk to other managers in the team you're part of to see what is working well for them and to share your own experiences.
- 8. Monitor progress.** Every time you review the stress risk assessment make sure you cross off the things you have done and add them to list of things you are already doing for the team. Then think about what else can be done to help.

Appendix 4 – ServiceZone Leadership Team Presentation (June 2013)

Work-related Stress Action Research Study



Q "Doesn't everyone need a bit of stress?"

Principles of Stress Management

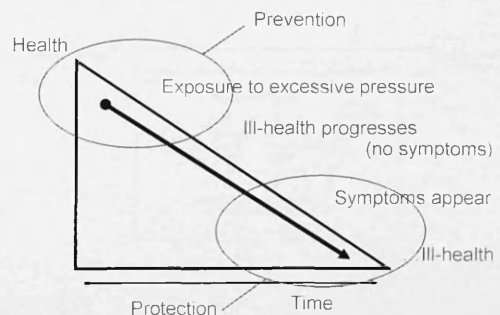
Stress

Stress is the adverse reaction people suffer through exposure to prolonged or excessive pressure

It can be accompanied by psychological and/or physiological symptoms that are typically beyond the control of the sufferer

As such there is no good stress.

Stress



How, not What

This does not mean:

- not setting targets
- not managing poor performance
- not changing

Its about **how** we do these things

Stress

Demands
Support
Control
Role Relationships
Change

Appendix 5 – Management Training Evaluation Form

Name*:

Department:

Facilitator: John Hamilton

Training Date :

* leave blank if you want to leave feedback anonymously

The statements below concern specific aspects of this training session. Please indicate to what extent you agree or disagree with each statement and provide your comments where appropriate

Your reaction to the training session	Strongly agree	Agree	Disagree	Strongly disagree
The objectives for the session were clear				
The objectives for the session were met				
Overall, what I learned in this session will be useful in my work				
The learning materials were easy to use				
I am satisfied with what I gained from this training session				
Comments:				

Facilitator	Strongly agree	Agree	Disagree	Strongly disagree
Presented clearly to assist my understanding				
Appeared knowledgeable of the subject matter				
Responded appropriately to questions				
Comments:				

Continued overleaf...

Administration	Strongly agree	Agree	Disagree	Strongly disagree
Joining instructions were clear				
Pre-session email received prior to the day				
The venue was suitable for this type of training session				
Comments				

How will you be using your learning from this training session? What specific actions will you take away?
What will you do differently as a result of this training session?
How would you describe this workshop to other people?

How likely are you to recommend this training session to a friend or colleague?

Not at all likely										Extremely likely				
1	2	3	4	5	6	7	8	9	10					

Thank you for your feedback

Appendix 6 – Focus Group Script

Team Managers

Thank you for agreeing to participate in this focus group, which will look at your experiences of implementing the stress risk assessment; what has worked well and what could be improved. My name is John Hamilton and I am a researcher from Lancaster University. This session is part of a larger study I am undertaking looking at work life in customer service organisations and particularly how the pressure of work can be managed effectively.

You were selected for the study because you manage one of the XXX teams where we have implemented the stress risk assessment. Your participation in the focus group is voluntary, you are free to leave at any time. Before the session starts you must have signed a consent form.

[Any participants who haven't signed the form must do so now]

The session will be recorded so that it can be transcribed for analysis. All of the recorded information is confidential and anonymised. It will not be possible to identify you in the transcript of the session. Neither the transcripts or the recordings will be shared with anyone from XXX. Pseudonyms will be used for any quotes that are used in the study findings.

The aim of the focus group is to explore a number of themes relating to your experience of the stress risk assessment, how it was implemented in your team, and how it might have affected the relationship you have with your team members and your Team Leader. Only one person should talk at a time, but the session is open and everyone's views are important. The session should last no longer than 1 hour.

[Go through House Rules]

Before we start has anyone got any questions about the focus group or the data collected today?

Introduction – ask participants to introduce themselves, how long they've worked for XXX, what they enjoy most about their job, and what they enjoy least about their job.

Probing – guide the discussion using these questions

1. How did you approach implementing the stress risk assessment with your team?
2. Did the process give them a say in issues that affect them at work?
3. Did the process affect the decisions you make about how the team do their jobs?
4. Did the process change how you view the pressure your team work under?
5. How would you describe the relationship you have with your team? Did the process change this in anyway?
6. Thinking about the way your Team Leader implemented the stress risk assessment, how did it differ from your approach?
7. Has the process affected the relationship you have with your Team Leader?
8. What aspects of the process worked best for you?
9. What aspects of the process could be improved?

Summary – summarise the findings, check if there is anything the participants would like to add to what has been discussed.

Thankyou for time and contribution to the session it is very much appreciated. I'll now be transcribing the recording and looking at what you have said in more detail.

CRMs

Thank you for agreeing to participate in this focus group, which will look at your experiences of working at XXX. My name is John Hamilton and I am a researcher from Lancaster University. This session is part of a larger study I am undertaking looking at work life in customer service organisations and particularly how the pressure of work can be managed effectively.

You were selected for the study because you are a working in one of the XXX teams where we have implemented the stress risk assessment. Your participation in the focus group is voluntary, you are free to leave at any time. Before the session starts you must have signed a consent form.

[Any participants who haven't signed the form must do so now]

The session will be recorded so that it can be transcribed for analysis. All of the recorded information is confidential and anonymised. It will not be possible to identify you in the transcript of the session. Neither the transcripts or the recordings will be shared with anyone from XXX. Pseudonyms will be used for any quotes that are used in the study findings.

The aim of the focus group is to explore a number of themes relating to your experience of the stress risk assessment, how it was implemented in your team, and how it might have affected the relationship you have with your manager. Only one person should talk at a time, but the session is open and everyone's views are important. The session should last no longer than 1 hour.

[Go through House Rules]

Before we start has anyone got any questions about the focus group or the data collected today?

Introduction – ask participants to introduce themselves, how long they’ve worked for XXX, what they enjoy most about their job, and what they enjoy least about their job.

Probing – guide the discussion using these questions

1. How did your manager approach completing the stress risk assessment?
2. Did you feel you were involved in completing it?
3. Do you feel it identified issues that are important to you?
4. Do you feel like you have a say in decisions that affect your work?
5. Do you feel your manager understands the bits of your work that put you under pressure?
6. Is your manager supportive when you are under pressure at work?
7. How would describe the relationship your manager has with you and the colleagues in your team?

Summary – summarise the findings, check if there is anything the participants would like to add to what has been discussed.

Thankyou for time and contribution to the session it is very much appreciated. I’ll now be transcribing the recording and looking at what you have said in more detail.

Appendix 7 – Focus Group Consent Form and Information Sheet

Focus Group Consent Form

We are asking if you would like to take part in a research project looking at work life in customer service organisations particularly how the pressure of work can be managed effectively.

Before you consent to participating in the study we ask that you read the participant information sheet and mark each box below with your initials if you agree. If you have any questions or queries before signing the consent form please speak to the researcher, John Hamilton.

I confirm that I have read the information sheet and fully understand what is expected of me within this study	
I confirm that I have had the opportunity to ask any questions and to have them answered.	
I understand that the focus group will be audio recorded and then made into an anonymised written transcript.	
I understand that audio recordings will be kept until they have been transcribed, checked and analysed.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.	
I understand that once my data have been anonymised and incorporated into themes it might not be possible for it to be withdrawn.	
I understand that the information from the focus groups will be pooled with other focus groups, anonymised and may be published	
I consent to information and quotations from the focus group being used in reports, conferences and training events.	
I understand that any information I give will remain strictly confidential and anonymous.	
I consent to Lancaster University keeping written transcriptions of the focus groups for 5 years after the study has finished.	
I consent to take part in the above study.	

Please initial box after each statement

Name of Participant _____ Signature _____ Date _____

Name of Researcher _John Hamilton _ Signature _____ Date _____

Focus Group Information Sheet

My name is John Hamilton and I am conducting a research study into the quality of working life in customer service organisations. I'm passionate about finding ways to ensure people are happy and healthy at work and this study will make a big contribution to the work I have done in this area. The study is part of a PhD I am completing at Lancaster University.

What is the study about?

The purpose of this study is to look at work life in customer service organisations particularly how the pressure of work can be managed effectively.

Why have I been approached?

You have been approached because the study requires information from people who are working in an operational role in a customer service organisations.

Do I have to take part?

No, it's completely up to you to decide whether or not you take part.

What will I be asked to do if I take part?

If you decide you would like to take part, you would be asked to participate in a focus group with a small number of XXX colleagues discussing your experience of the stress risk assessment as well as any thoughts you have to improve it. The focus group will last around 45 minutes.

Will my data be confidential?

The information you provide is **confidential, it will not be shared with XXX**. The data collected for this study will be stored securely and only the researcher (i.e. me) conducting this study will have access to this data:

- Audio recordings will be destroyed and/or deleted after they have been transcribed, checked and analysed.
- The typed version of the focus group will be made anonymous by removing any identifying information including your name. Anonymised direct quotations from your interview may be used in the reports or publications from the study, so your name will not be attached to them.
- Any files containing personal information stored on my computer will be encrypted (that is no-one other than I will be able to access them) and the computer itself password protected.
- At the end of the study, hard copies of questionnaires will be kept securely in a locked cabinet for five years. At the end of this period, they will be destroyed.

What will happen to the results?

The results will be summarised and reported in my research dissertation and may be submitted for publication in an academic or professional journal. It will not be possible to identify you from the publication of any results

Are there any risks?

There are no risks anticipated with participating in this study. However, if you experience any distress following participation you are encouraged to inform myself or the XXX Occupational Health team who's contact details are included below.

Are there any benefits to taking part?

Although you may find participating interesting, there are no direct benefits in taking part.

Who has reviewed the project?

This study has been reviewed by the Faculty of Health and Medicine Research Ethics Committee, and approved by the University Research Ethics Committee at Lancaster University.

Where can I obtain further information about the study if I need it?

If you have any questions about the study, please contact the researcher:

John Hamilton
tel - 07970 912933 email - j.hamilton@lancaster.ac.uk
or my supervisor
Professor Susan Cartwright
email - s.cartwright@lancaster.ac.uk

Complaints

If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

Dr Jane Simpson Tel: (01524) 592858
Research Director; Email: j.simpson2@lancaster.ac.uk
Division of Health Research
Lancaster University
Lancaster
LA1 4YG

If you wish to speak to someone outside of the Organisational Health and Wellbeing Doctorate Programme, you may also contact:

Professor Paul Bates Tel: (01524) 593718
Associate Dean for Research Email: p.bates@lancaster.ac.uk
Faculty of Health and Medicine
(Division of Biomedical and Life Sciences)
Lancaster University
Lancaster
LA1 4YD


Thank you for taking the time to read this information sheet.

Additional support

Additional support is available from the XXX Occupational Health Manager: XXX tel – XXXXX

Appendix 8 – Online Structured Survey

LANCASTER
UNIVERSITY



Worklife at

Before we start...

We are asking if you would like to take part in a research project looking at work life in customer service organisations particularly how the pressure of work can be managed effectively. This is a research project being conducted by John Hamilton from Lancaster University.

Before you consent to participating in the study we ask that you read the participant Information Sheet linked in the email and check your understanding by reading each of the statements below. If you have any questions or queries before completing the survey please speak to the researcher, John Hamilton (07970 912933).

1. I confirm that I have read the Information Sheet and fully understand what is expected of me within this study

2. I confirm that I have had the opportunity to ask any questions and to have them answered.

3. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.

4. I understand that once my data have been anonymised it might not be possible for it to be withdrawn, though every attempt will be made to extract my data, up to the point of publication.

5. I understand that the information from this survey will be pooled with other participants' responses, anonymised and may be published

6. I understand that any information I give will remain strictly confidential and anonymous.

7. I consent to Lancaster University keeping the survey data for 5 years after the study has finished.

8. I consent to take part in the above study.

I have read and understood the information provided above and consent to take part in this study.


☒ Agree

☐ Disagree

8%

Next

LANCASTER
UNIVERSITY



Worklife at

Section 1 - Your life at work

In this section are 25 statements about your life at work. Please read each statement carefully and consider if it reflects your work in the last six months. If the statement has never applied to you in that time then tick the box marked '0'. If it has applied to you in the last six months, indicate how often by ticking one of the boxes 1 to 4 that best describes the frequency.

1. I am subject to personal harassment in the form of unkind words or behaviour.

☐ 0 - Never

☐ 1 - Seldom

☐ 2 - Sometimes

☐ 3 - Often

☐ 4 - Always

2. I have unachievable deadlines.

☐ 0 - Never

☐ 1 - Seldom

☐ 2 - Sometimes

☐ 3 - Often

☐ 4 - Always

3. If work gets difficult, my colleagues will help me.

☐ 0 - Never

☐ 1 - Seldom

☐ 2 - Sometimes

☐ 3 - Often

☐ 4 - Always

4. I am given supportive feedback on the work I do.

☐ 0 - Never

☐ 1 - Seldom

☐ 2 - Sometimes

☐ 3 - Often

☐ 4 - Always

5. I have a say in my own work speed.

☐ 0 - Never

☐ 1 - Seldom

☐ 2 - Sometimes

☐ 3 - Often

☐ 4 - Always

17%

Prev

Next

Worklife at [redacted]

Section 1 - Your life at work

6. I am clear about what my duties and responsibilities are.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

7. I have to neglect some tasks because I have too much to do.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

8. I am clear about the goals and objectives for my team.

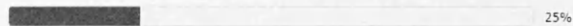
- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

9. I have a choice in deciding how I do my work

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

10. I understand how my work fits into the overall aim of [redacted]

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always



Prev

Next

Worklife at Loop

Section 1 - Your life at work

11. I am pressured to work long hours.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

12. I have a choice in deciding what I do at work.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

13. I am subject to bullying at work.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

14. I have unrealistic time pressures.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

15. I can rely on my line manager to help me out with a work problem.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always



Prev

Next

Worklife at

Section 1 - Your life at work

16. I get the help and support I need from colleagues.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

17. I have some say over the way I work.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

18. I have sufficient opportunities to question managers about change at work.

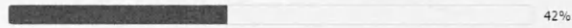
- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

19. I receive the respect at work I deserve from my colleagues.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

20. Staff are consulted about change at work.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always



Prev

Next

Worklife at

Section 1 - Your life at work

21. I can talk to my line manager about something that has upset or annoyed me about work.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

22. My colleagues are willing to listen to my work-related problems.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

23. When changes are made at work, I am clear how they will work out in practice.

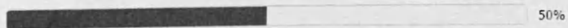
- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

24. I am supported through emotionally demanding work e.g. angry or upset customer.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always

25. My line manager encourages me at work.

- ☐ 0 - Never ☐ 1 - Seldom ☐ 2 - Sometimes ☐ 3 - Often ☐ 4 - Always



Prev

Next

Worklife at

Section 2 - Your general health

In this section are 15 questions that ask about how your health has been in general over the last few weeks. Please read each question carefully and indicate which answer you think most applies to you by ticking one of the boxes 1 to 4.

Have you recently...

... been able to concentrate on whatever you're doing?

- ☐ 1 - Better than usual ☐ 2 - Same as usual ☐ 3 - Less than usual ☐ 4 - Much less than usual

... lost much sleep over worry?

- ☐ 1 - Not at all ☐ 2 - No more than usual ☐ 3 - Rather more than usual ☐ 4 - Much more than usual

... felt you were playing a useful part in things?

- ☐ 1 - More so than usual ☐ 2 - Same as usual ☐ 3 - Less useful than usual ☐ 4 - Much less useful

... felt you can't cope with issues in your personal life?

- ☐ 1 - Not at all ☐ 2 - No more than usual ☐ 3 - Rather more than usual ☐ 4 - Much more than usual

... felt capable about making decisions about things?

- ☐ 1 - More so than usual ☐ 2 - Same as usual ☐ 3 - Less so than usual ☐ 4 - Much less capable



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Worklife at

Section 2 - Your general health

Have you recently...

... felt issues away from work are affecting your health?

- ☐ 1 - Not at all ☐ 2 - No more than usual ☐ 3 - Rather more than usual ☐ 4 - Much more than usual

... felt constantly under strain?

- ☐ 1 - Not at all ☐ 2 - No more than usual ☐ 3 - Rather more than usual ☐ 4 - Much more than usual

... felt you couldn't overcome your difficulties?

- ☐ 1 - Not at all ☐ 2 - No more than usual ☐ 3 - Rather more than usual ☐ 4 - Much more than usual

... been able to enjoy your normal day-to-day activities?

- ☐ 1 - More so than usual ☐ 2 - Same as usual ☐ 3 - Less able than usual ☐ 4 - Much less than usual

... been able to face up to your problems?

- ☐ 1 - More so than usual ☐ 2 - Same as usual ☐ 3 - Less able than usual ☐ 4 - Much less able




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Worklife at

Section 2 - Your general health

Have you recently...

... been feeling unhappy and depressed?

☐ 1 - Not at all

☐ 2 - No more than usual

☐ 3 - Rather more than usual

☐ 4 - Much more than usual

... thought that coming to work is an escape from personal issues?

☐ 1 - Not at all

☐ 2 - No more than usual

☐ 3 - Rather more than usual

☐ 4 - Much more than usual

... been losing confidence in yourself?

☐ 1 - Not at all

☐ 2 - No more than usual

☐ 3 - Rather more than usual

☐ 4 - Much more than usual

... been thinking of yourself as a worthless person?

☐ 1 - Not at all

☐ 2 - No more than usual

☐ 3 - Rather more than usual

☐ 4 - Much more than usual

... been feeling reasonably happy, all things considered?

☐ 1 - More so than usual

☐ 2 - Same as usual

☐ 3 - Less so than usual

☐ 4 - Much less than usual


75%

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Worklife at

Section 3 - About you

Finally, this section contains 8 questions about you. Remember this information will be treated in the **strictest confidence** and will not be used to identify individuals. Please tick the box next to the answer that applies to you.

1. What are your nominal hours of work?

☐ 1 - Full-time

☐ 2 - Part-time

2. When do you normally work?

☐ 1 - Normal office hours (e.g. Mon-Fri 8am-6pm)

☐ 2 - Out of hours (e.g. Evenings and weekends)

3. When do you normally work?

☐ 1 - All year round

☐ 2 - Term time only

4. How long have you worked at Loop?

5. What is your role at Loop?

☐ 1 - CRM

☐ 2 - Coach inc Operational or Quality

3 - Other (please specify)

83%


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Worklife at

Section 3 - About you

Remember this information will be treated in the **strictest confidence** and will not be used to identify individuals.

6. Who is your Team Manager?

☐ 1 -

☐ 2 -

☐ 3 -

☐ 4 -

☐ 5 -

☐ 6 -

☐ 7 -

☐ 8 -

☐ 9 -

☐ 10 -

☐ 11 -

☐ 12 -

☐ 13 -

☐ 14 -

☐ 15 -

☐ 16 -

☐ 17 -

18 - Other (please specify)

☐ 1 - Female

☐ 2 - Male


92%

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Worklife at

Thank You

Thank you for taking the time to complete this survey.

It is very much appreciated.

Would you like to be entered in the prize draw for £50 of Amazon vouchers?

☐ Yes please

☐ No thanks

100%

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Done

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Appendix 9 – Structured Survey Information Sheet

Participant Information Sheet

My name is John Hamilton and I am conducting a research study into the quality of working life in call centres. I'm passionate about finding ways to ensure people are happy and healthy at work and this study will make a big contribution to the work I have done in this area. The study is part of a PhD I am completing at Lancaster University.

What is the study about?

The purpose of this study is to look at work life in call centres particularly how the pressure of work can be managed effectively.

Why have I been approached?

You have been approached because the study requires information from people who are working in an operational role in a call centre environment.

Do I have to take part?

No. You will need to participate in any stress management initiative that XXX implements as part of the study, but you do not have to take part in the research aspect of this study.

What will I be asked to do if I take part?

If you decide you would like to take part, you would be asked to complete a short online questionnaire that takes about 10 minutes. The first questionnaire will be emailed to you shortly, with follow up questionnaires in 6 months and 9 months time.

Will my data be confidential?

The information you provide is confidential. The data collected for this study will be stored securely and only the researcher conducting this study will have access to this data:

- The responses you give to the questionnaire will be made anonymous by removing any identifying information including your name.
- Your responses will not be shared with XXX and will only be accessed by the researcher (i.e. me) and my research supervisor
- Any files containing personal information files stored on my computer will be encrypted (that is no-one other than the I will be able to access them) and the computer itself password protected.
- At the end of the study, hard copies of questionnaires will be kept securely in a locked cabinet for five years. At the end of this period, they will be destroyed.

What will happen to the results?

The results will be summarised and reported in my research dissertation and may be submitted for publication in an academic or professional journal. It will not be possible to identify you from the publication of any results

Are there any risks?

There are no risks anticipated with participating in this study. However, if you experience any distress following participation you are encouraged to inform myself or the XXX Occupational Health Manager who's contact details are included below.

Are there any benefits to taking part?

Although you may find participating interesting, there are no direct benefits in taking part.

Who has reviewed the project?

This study has been reviewed by the Faculty of Health and Medicine Research Ethics Committee, and approved by the University Research Ethics Committee at Lancaster University.

Where can I obtain further information about the study if I need it?

If you have any questions about the study, please contact the main researcher:

John Hamilton

tel - 07970 912933 email - j.hamilton@lancaster.ac.uk

or my supervisor

Professor Susan Cartwright

email - s.cartwright@lancaster.ac.uk

Complaints

If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

Name of Research Director for your Division Tel: (01524) xxxxxx

Title; Email: xxxx@lancaster.ac.uk

Division

Lancaster University

Lancaster

LA1 XXX

If you wish to speak to someone outside of the Organisational Health and Wellbeing Doctorate Programme, you may also contact:

Professor Paul Bates Tel: (01524) 593718

Associate Dean for Research Email: p.bates@lancaster.ac.uk

Faculty of Health and Medicine

(Division of Biomedical and Life Sciences)

Lancaster University

Lancaster

LA1 4YD

Thank you for taking the time to read this information sheet.

Resources in the event of distress

Should you feel distressed either as a result of taking part, or in the future, please contact the XXX Occupational Health Manager:

Appendix 10 – ServiceZone MD Pre-Survey Email

Hello All

As part of our ongoing commitment to ensuring XXX is a great place to work, we have agreed to participate in a research project being run by Lancaster University. The study will look at work life at XXX particularly how the pressure of work can be managed effectively and the results of the study will help us further improve the working environment.

It is important to get your opinions so we'd like you to take part in the study by completing a short online questionnaire that will be emailed to you shortly - it won't take any more than 5 or 10 minutes to complete.

The results are really important to us so please be frank and honest with your answers. Those of you that complete and submit a questionnaire will be entered into a prize draw to win £50 of Amazon vouchers.

When completing the questionnaire please bear in mind:

1. Your questionnaire is completely anonymous and will not be seen by anybody from Loop.
2. The information you provide will be treated as strictly confidential.
3. It will not be possible to see individual information in the final results.

Thank you for your help with this study, if you have any questions please don't hesitate to contact the researcher John Hamilton via email at j.hamilton@lancaster.ac.uk.

Best wishes

Appendix 11 – Structured Survey Enrolment Email

To:

Subject: Survey Invite - Worklife at XXX

You are invited to participate in a study into worklife in customer service organisations, carried out by the Centre for Health and Well Being at Lancaster University. XXX has agreed to participate in this study that will look at how the pressure of working in a workplace like yours can be managed effectively. This email is being sent to colleagues employed on a permanent contract.

We are interested in what you think about your life at work and your health and would like you to complete a short online questionnaire on three occasions in the next few months. Everyone completing the survey will be entered into a prize draw to win £50 in Amazon vouchers.

Each survey will take about 10 minutes to complete, you can access it by clicking on this link...

[survey link]

Please remember that your survey responses will remain strictly confidential and your anonymity is assured so please answer all questions honestly, giving your first and natural answer. You are free to decide whether you wish to take part in this study; deciding not to take part won't have any implications for you. More details about the study are contained in the Information Sheet available here [link].

Although we have used your email address to send you the survey a code will be given to each participant so that email details will not be stored with the survey responses to ensure anonymity. Only the researcher (i.e. me) will have access to the list linking participants with their given code.

If you have any questions or queries please do not hesitate to contact me via email at j.hamilton@lancaster.ac.uk.

Thank you for help with this survey,

John Hamilton

Researcher, Lancaster University

This is a survey of XXX employees only so we encourage you to participate.

If you'd like to ask not to participate please click this link [opt out link]

Appendix 12 – List of Statistical Variables

Variable	Label	Measure
ID	ID	Nominal
T1_studygroup	T1 Study Group	Nominal
T2_studygroup	T2 Study Group	Nominal
T3_studygroup	T3 Study Group	Nominal
T1_dept	T1 Department	Nominal
T2_dept	T2 Department	Nominal
T3_dept	T3 Department	Nominal
FTE	Full Time or Part Time	Nominal
Role	Job type	Nominal
Role_2	Job type	Nominal
Gender	Gender	Nominal
Age	Age	Scale
AgeCategory	Age Category	Nominal
Service	Length of service	Scale
T1-T2_Intervention	Intervention effectiveness	Nominal
T2_DATA_i	Intervention Data at T2	Nominal
T1_DATA	Data at T1	Nominal
T2_DATA	Data at T2	Nominal
T3_DATA	Data at T3	Nominal
T1-T2-T3_DATA_i	Intervention Data at T1-T2-T3	Nominal
T1_HSE_demands	T1 HSE Demands Score	Scale
T1_HSE_control	T1 HSE Control Score	Scale
T1_HSE_mgrsupport	T1 HSE Manager Support Score	Scale
T1_HSE_peersupport	T1 HSE Peer Support Score	Scale
T1_HSE_relationships	T1 HSE Relationships Score	Scale
T1_HSE_role	T1 HSE Role Score	Scale
T1_HSE_change	T1 HSE Change Score	Scale
T1_GHQ_CaseScore	T1 GHQ12 Caseness scoring sum	Scale
T1_GHQ_Outcome3	T1 GHQ12 Classification	Nominal
T1_GHQ_Outcome2	T1 GHQ12 Classification	Nominal
T1_nonwork_CaseScore	T1 Non work factors caseness scoring sum	Scale
T1_nonwork_Outcome	T1 Non Work Factors Classification	Nominal
T2_HSE_demands	T2 HSE Demands Score	Scale
T2_HSE_control	T2 HSE Control Score	Scale
T2_HSE_mgrsupport	T2 HSE Manager Support Score	Scale
T2_HSE_peersupport	T2 HSE Peer Support Score	Scale

Variable	Label	Measure
T2_HSE_relationships	T2 HSE Relationships Score	Scale
T2_HSE_role	T2 HSE Role Score	Scale
T2_HSE_change	T2 HSE Change Score	Scale
T2_GHQ_CaseScore	T2 GHQ12 Caseness scoring sum	Scale
T2_GHQ_Outcome3	T2 GHQ12 Classification	Nominal
T2_GHQ_Outcome2	T2 GHQ12 Classification	Nominal
T2_nonwork_CaseScore	T2 Non work factors case scoring sum	Scale
T2_nonwork_Outcome	T2 Non Work factors Classification	Nominal
T3_HSE_demands	T3 HSE Demands Score	Scale
T3_HSE_control	T3 HSE Control Score	Scale
T3_HSE_mgrsupport	T3 HSE Manager Support Score	Scale
T3_HSE_peersupport	T3 HSE Peer Support Score	Scale
T3_HSE_relationships	T3 HSE Relationships Score	Scale
T3_HSE_role	T3 HSE Role Score	Scale
T3_HSE_change	T3 HSE Change Score	Scale
T3_GHQ_CaseScore	T3 GHQ12 Caseness scoring sum	Scale
T3_GHQ_Outcome3	T3 GHQ12 Classification	Nominal
T3_GHQ_Outcome2	T3 GHQ12 Classification	Nominal
T3_nonwork_CaseScore	T3 Non work factors case scoring sum	Scale
T3_nonwork_Outcome	T3 Non Work factors Classification	Nominal
T1-T2_TM	TM between T1-T2	Nominal
T1_TM	T1 Line Manager	Nominal
T2_TM	T2 Line Manager	Nominal
T3_TM	T3 Line Manager	Nominal
T1_T2_T3	Present at T1, T2 and T3	Nominal
T1_X_T3	Present at T1 and T3 but no response for T2	Nominal
T1_T2_X	Present at T1 and T2	Nominal
X_T2_T3	Present at T2 and T3	Nominal
T1_HSE_2de_REV	2. I have unachievable deadlines.	Ordinal
T1_HSE_7de_REV	7. I have to neglect some tasks because I have too much to do.	Ordinal
T1_HSE_11de_REV	11. I am pressured to work long hours.	Ordinal
T1_HSE_14de_REV	14. I have unrealistic time pressures.	Ordinal
T1_HSE_5co	5. I have a say in my own work speed.	Ordinal
T1_HSE_9co	9. I have a choice in deciding how I do my work	Ordinal
T1_HSE_12co	12. I have a choice in deciding what I do at work.	Ordinal
T1_HSE_17co	17. I have some say over the way I work.	Ordinal
T1_HSE_4ms	4. I am given supportive feedback on the work I do.	Ordinal

Variable	Label	Measure
T1_HSE_15ms	15. I can rely on my line manager to help me out with a work problem.	Ordinal
T1_HSE_25ms	25. My line manager encourages me at work.	Ordinal
T1_HSE_24ms	24. I am supported through emotionally demanding work e.g. angry or upset customer.	Ordinal
T1_HSE_21ms	21. I can talk to my line manager about something that has upset or annoyed me about work.	Ordinal
T1_HSE_3ps	3. If work gets difficult, my colleagues will help me.	Ordinal
T1_HSE_16ps	16. I get the help and support I need from colleagues.	Ordinal
T1_HSE_19ps	19. I receive the respect at work I deserve from my colleagues.	Ordinal
T1_HSE_22ps	22. My colleagues are willing to listen to my work-related problems.	Ordinal
T1_HSE_1re_REV	1. I am subject to personal harassment in the form of unkind words or behaviour.	Ordinal
T1_HSE_13re_REV	13. I am subject to bullying at work.	Ordinal
T1_HSE_6ro	6. I am clear about what my duties and responsibilities are.	Ordinal
T1_HSE_8ro	8. I am clear about the goals and objectives for my team.	Ordinal
T1_HSE_10ro	10. I understand how my work fits into the overall aim of [the company].	Ordinal
T1_HSE_18ch	18. I have sufficient opportunities to question managers about change at work.	Ordinal
T1_HSE_20ch	20. Staff are consulted about change at work.	Ordinal
T1_HSE_23ch	23. When changes are made at work, I am clear how they will work out in practice.	Ordinal
T1_GHQ_1	... been able to concentrate on whatever you're doing?	Ordinal
T1_GHQ_2	... lost much sleep over worry?	Ordinal
T1_GHQ_3	... felt you were playing a useful part in things?	Ordinal
T1_GHQ_4	... felt capable about making decisions about things?	Ordinal
T1_GHQ_5	... felt constantly under strain?	Ordinal
T1_GHQ_6	... felt you couldn't overcome your difficulties?	Ordinal
T1_GHQ_7	... been able to enjoy your normal day-to-day activities?	Ordinal
T1_GHQ_8	... been able to face up to your problems?	Ordinal
T1_GHQ_9	... been feeling unhappy and depressed?	Ordinal

Variable	Label	Measure
T1_GHQ_10	... been losing confidence in yourself?	Ordinal
T1_GHQ_11	... been thinking of yourself as a worthless person?	Ordinal
T1_GHQ_12	... been feeling reasonably happy, all things considered?	Ordinal
T1_GHQ_1case	T1 Q1 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_2case	T1 Q2 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_3case	T1 Q3 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_4case	T1 Q4 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_5case	T1 Q5 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_6case	T1 Q6 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_7case	T1 Q7 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_8case	T1 Q8 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_9case	T1 Q9 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_10case	T1 Q10 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_11case	T1 Q11 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_GHQ_12case	T1 Q12 GHQ-12 caseness scoring 0-0-1-1	Nominal
T1_nonwork_1	... felt you can't cope with issues in your personal life?	Ordinal
T1_nonwork_2	... felt issues away from work are affecting your health?	Ordinal
T1_nonwork_3	... thought that coming to work is an escape from personal issues?	Ordinal
T1_nonwork_1case	T1 Q1 Non work factors caseness scoring 0-0-1-1	Nominal
T1_nonwork_2case	T1 Q2 Non work factors caseness scoring 0-0-1-1	Nominal
T1_nonwork_3case	T1 Q3 Non work factors caseness scoring 0-0-1-1	Nominal
T2_HSE_2de_REV	2. I have unachievable deadlines.	Ordinal
T2_HSE_7de_REV	7. I have to neglect some tasks because I have too much to do.	Ordinal
T2_HSE_11de_REV	11. I am pressured to work long hours.	Ordinal
T2_HSE_14de_REV	14. I have unrealistic time pressures.	Ordinal
T2_HSE_5co	5. I have a say in my own work speed.	Ordinal
T2_HSE_9co	9. I have a choice in deciding how I do my work	Ordinal
T2_HSE_12co	12. I have a choice in deciding what I do at work.	Ordinal
T2_HSE_17co	17. I have some say over the way I work.	Ordinal
T2_HSE_4ms	4. I am given supportive feedback on the work I do.	Ordinal

Variable	Label	Measure
T2_HSE_15ms	15. I can rely on my line manager to help me out with a work problem.	Ordinal
T2_HSE_21ms	21. I can talk to my line manager about something that has upset or annoyed me about work.	Ordinal
T2_HSE_24ms	24. I am supported through emotionally demanding work e.g. angry or upset customer.	Ordinal
T2_HSE_25ms	25. My line manager encourages me at work.	Ordinal
T2_HSE_3ps	3. If work gets difficult, my colleagues will help me.	Ordinal
T2_HSE_16ps	16. I get the help and support I need from colleagues.	Ordinal
T2_HSE_19ps	19. I receive the respect at work I deserve from my colleagues.	Ordinal
T2_HSE_22ps	22. My colleagues are willing to listen to my work-related problems.	Ordinal
T2_HSE_1re_REV	1. I am subject to personal harassment in the form of unkind words or behaviour.	Ordinal
T2_HSE_13re_REV	13. I am subject to bullying at work.	Ordinal
T2_HSE_6ro	6. I am clear about what my duties and responsibilities are.	Ordinal
T2_HSE_8ro	8. I am clear about the goals and objectives for my team.	Ordinal
T2_HSE_10ro	10. I understand how my work fits into the overall aim of [the company].	Ordinal
T2_HSE_18ch	18. I have sufficient opportunities to question managers about change at work.	Ordinal
T2_HSE_20ch	20. Staff are consulted about change at work.	Ordinal
T2_HSE_23ch	23. When changes are made at work, I am clear how they will work out in practice.	Ordinal
T2_GHQ_1	... been able to concentrate on whatever you're doing?	Ordinal
T2_GHQ_2	... lost much sleep over worry?	Ordinal
T2_GHQ_3	... felt you were playing a useful part in things?	Ordinal
T2_GHQ_4	... felt capable about making decisions about things?	Ordinal
T2_GHQ_5	... felt constantly under strain?	Ordinal
T2_GHQ_6	... felt you couldn't overcome your difficulties?	Ordinal
T2_GHQ_7	... been able to enjoy your normal day-to-day activities?	Ordinal
T2_GHQ_8	... been able to face up to your problems?	Ordinal

Variable	Label	Measure
T2_GHQ_9	... been feeling unhappy and depressed?	Ordinal
T2_GHQ_10	... been losing confidence in yourself?	Ordinal
T2_GHQ_11	... been thinking of yourself as a worthless person?	Ordinal
T2_GHQ_12	... been feeling reasonably happy, all things considered?	Ordinal
T2_GHQ_1case	T2 Q1 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_2case	T2 Q2 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_3case	T2 Q3 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_4case	T2 Q4 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_5case	T2 Q5 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_6case	T2 Q6 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_7case	T2 Q7 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_8case	T2 Q8 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_9case	T2 Q9 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_10case	T2 Q10 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_11case	T2 Q11 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_GHQ_12case	T2 Q12 GHQ-12 caseness scoring 0-0-1-1	Nominal
T2_nonwork_1	... felt you can't cope with issues in your personal life?	Ordinal
T2_nonwork_2	... felt issues away from work are affecting your health?	Ordinal
T2_nonwork_3	... thought that coming to work is an escape from personal issues?	Ordinal
T2_nonwork_1case	T2 Q1 Non work factors caseness scoring 0-0-1-1	Nominal
T2_nonwork_2case	T2 Q2 Non work factors caseness scoring 0-0-1-1	Nominal
T2_nonwork_3case	T2 Q3 Non work factors caseness scoring 0-0-1-1	Nominal
T3_HSE_2de_REV	2. I have unachievable deadlines.	Ordinal
T3_HSE_7de_REV	7. I have to neglect some tasks because I have too much to do.	Ordinal
T3_HSE_11de_REV	11. I am pressured to work long hours.	Ordinal
T3_HSE_14de_REV	14. I have unrealistic time pressures.	Ordinal
T3_HSE_5co	5. I have a say in my own work speed.	Ordinal
T3_HSE_9co	9. I have a choice in deciding how I do my work	Ordinal
T3_HSE_12co	12. I have a choice in deciding what I do at work.	Ordinal

Variable	Label	Measure
T3_HSE_17co	17. I have some say over the way I work.	Ordinal
T3_HSE_4ms	4. I am given supportive feedback on the work I do.	Ordinal
T3_HSE_15ms	15. I can rely on my line manager to help me out with a work problem.	Ordinal
T3_HSE_21ms	21. I can talk to my line manager about something that has upset or annoyed me about work.	Ordinal
T3_HSE_24ms	24. I am supported through emotionally demanding work e.g. angry or upset customer.	Ordinal
T3_HSE_25ms	25. My line manager encourages me at work.	Ordinal
T3_HSE_3ps	3. If work gets difficult, my colleagues will help me.	Ordinal
T3_HSE_16ps	16. I get the help and support I need from colleagues.	Ordinal
T3_HSE_19ps	19. I receive the respect at work I deserve from my colleagues.	Ordinal
T3_HSE_22ps	22. My colleagues are willing to listen to my work-related problems.	Ordinal
T3_HSE_1re_REV	1. I am subject to personal harassment in the form of unkind words or behaviour.	Ordinal
T3_HSE_13re_REV	13. I am subject to bullying at work.	Ordinal
T3_HSE_6ro	6. I am clear about what my duties and responsibilities are.	Ordinal
T3_HSE_8ro	8. I am clear about the goals and objectives for my team.	Ordinal
T3_HSE_10ro	10. I understand how my work fits into the overall aim of [the company].	Ordinal
T3_HSE_18ch	18. I have sufficient opportunities to question managers about change at work.	Ordinal
T3_HSE_20ch	20. Staff are consulted about change at work.	Ordinal
T3_HSE_23ch	23. When changes are made at work, I am clear how they will work out in practice.	Ordinal
T3_GHQ_1	... been able to concentrate on whatever you're doing?	Ordinal
T3_GHQ_2	... lost much sleep over worry?	Ordinal
T3_GHQ_3	... felt you were playing a useful part in things?	Ordinal
T3_GHQ_4	... felt capable about making decisions about things?	Ordinal
T3_GHQ_5	... felt constantly under strain?	Ordinal

Variable	Label	Measure
T3_GHQ_6	... felt you couldn't overcome your difficulties?	Ordinal
T3_GHQ_7	... been able to enjoy your normal day-to-day activities?	Ordinal
T3_GHQ_8	... been able to face up to your problems?	Ordinal
T3_GHQ_9	... been feeling unhappy and depressed?	Ordinal
T3_GHQ_10	... been losing confidence in yourself?	Ordinal
T3_GHQ_11	... been thinking of yourself as a worthless person?	Ordinal
T3_GHQ_12	... been feeling reasonably happy, all things considered?	Ordinal
T3_GHQ_1case	T3 Q1 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_2case	T3 Q2 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_3case	T3 Q3 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_4case	T3 Q4 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_5case	T3 Q5 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_6case	T3 Q6 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_7case	T3 Q7 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_8case	T3 Q8 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_9case	T3 Q9 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_10case	T3 Q10 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_11case	T3 Q11 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_GHQ_12case	T3 Q12 GHQ-12 caseness scoring 0-0-1-1	Nominal
T3_nonwork_1	... felt you can't cope with issues in your personal life?	Ordinal
T3_nonwork_2	... felt issues away from work are affecting your health?	Ordinal
T3_nonwork_3	... thought that coming to work is an escape from personal issues?	Ordinal
T3_nonwork_1case	T3 Q1 Non work factors caseness scoring 0-0-1-1	Nominal
T3_nonwork_2case	T3 Q2 Non work factors caseness scoring 0-0-1-1	Nominal
T3_nonwork_3case	T3 Q3 Non work factors caseness scoring 0-0-1-1	Nominal
T2_sra_aware	T2 SRA Awareness	Nominal
T2_sra_aware2	T2 SRA Awareness	Nominal
T2_sra_involve	T2 SRA Involvement	Nominal
T2_sra_involve2	T2 SRA Involvement	Nominal

Variable	Label	Measure
T2_sra_awareinvolve	T2 SRA Awareness and Involvement	Nominal
T1-T2-T3_sra_aware2	T2 SRA Awareness	Nominal
T2_sra_comment	T2 SRA Comments	Nominal
T3_sra_aware	T3 SRA Awareness	Ordinal
T3_sra_involve	T3 SRA Involvement	Ordinal
T3_sra_comment	T3 SRA Comments	Nominal
T1_T2_performance	Mean performance between T1 and T2	Scale
T2_T3_performance	Mean performance between T2 and T3	Scale
PersonalData	Sickness/Performance data available	Nominal
T1_T2_sickness	No. days sickness between T1 and T2	Scale
T2_sicknesscase	Top quartile sickness case	Nominal
T2_T3_sickness	No days sickness between T2 and T3	Scale

Appendix 13 – Descriptive Data

Table 37
Demographic Characteristics of Study Participants

Characteristic	n (%)											
	Intervention Group						Control Group					
	Contact Centre			Collections			Contact Centre			Collections		
	T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
N	54	76	63	67	62	58	71	67	51	68	58	59
Job Type												
CRM	42 (77.8)	60 (78.9)	50 (79.4)	56 (83.6)	52 (83.9)	49 (84.5)	56 (77.8)	45 (67.2)	27 (52.9)	57 (83.8)	50 (86.2)	49 (83.1)
Team Manager	8 (14.8)	8 (10.5)	8 (12.7)	8 (11.9)	7 (11.3)	6 (10.3)	6 (8.3)	7 (10.4)	7 (13.7)	6 (8.8)	5 (8.6)	5 (8.5)
Other (e.g. Coach)	4 (7.4)	8 (10.5)	5 (7.9)	3 (4.5)	3 (4.8)	3 (5.1)	10 (13.9)	15 (22.4)	17 (33.3)	5 (7.4)	3 (5.2)	5 (8.5)
Age at time of survey												
16-24	17 (31.5)	18 (23.7)	17 (27.0)	3 (4.5)	3 (4.8)	3 (5.2)	13 (18.1)	9 (13.4)	4 (7.8)	1 (1.5)		
25-34	21 (38.9)	29 (38.2)	20 (31.7)	18 (26.9)	19 (30.6)	20 (34.5)	28 (38.9)	35 (52.2)	25 (49.0)	14 (20.6)	14 (24.1)	9 (15.3)
35-44	7 (13.0)	9 (11.8)	6 (9.5)	21 (31.3)	22 (35.5)	20 (34.5)	7 (9.7)	6 (9.0)	8 (15.7)	19 (27.9)	15 (25.9)	18 (30.5)
45-54	6 (11.1)	13 (17.1)	11 (17.5)	18 (26.9)	11 (17.7)	12 (20.7)	14 (19.4)	12 (17.9)	11 (21.6)	19 (27.9)	17 (29.3)	21 (35.6)
55-64	2 (3.7)	4 (5.3)	4 (6.3)	3 (4.5)	5 (8.1)	2 (3.4)	5 (6.9)	2 (3.0)	3 (5.9)	9 (13.2)	7 (12.1)	7 (11.9)
65-74	-	-	-	-	-	-	-	-	-	2 (2.9)	2 (3.4)	2 (3.4)
Unknown	-	3 (3.9)	5 (7.9)	-	2 (3.2)	1 (1.7)	5 (6.9)	3 (4.5)	1 (1.7)	-	-	
Working Hours												
Full time	28 (51.9)	48 (63.2)	42 (66.7)	43 (64.2)	41 (66.1)	38 (65.5)	57 (79.2)	52 (77.6)	36 (70.6)	44 (64.7)	37 (63.8)	40 (67.8)
Part time	26 (48.1)	27 (35.5)	21 (33.3)	24 (35.8)	21 (33.9)	20 (34.5)	15 (20.8)	14 (20.9)	15 (29.4)	24 (35.3)	21 (36.2)	19 (32.2)
Unknown	-	1 (1.3)	-	-	-	-	-	-	-	-	-	
Gender												
Female	28 (51.9)	46 (60.5)	44 (69.8)	55 (82.1)	48 (77.4)	40 (69.0)	46 (63.9)	44 (65.7)	32 (62.7)	51 (75.0)	43 (74.1)	45 (76.3)
Male	26 (48.1)	30 (39.5)	14 (22.2)	12 (17.9)	14 (22.6)	12 (20.7)	26 (36.1)	23 (34.3)	16 (31.4)	17 (25.0)	15 (25.9)	14 (23.7)
Unknown	-	-	5 (7.9)	-	-	6 (10.3)	-	-	3 (5.9)	-	-	

Table 38

Age Characteristics of Participants

M (SD)			
Study Group/Department	T1	T2	T3
Intervention Group			
Contact Centre	30.98 (10.21)	33.49 (11.43)	33.55 (12.24)
Collections	39.27 (9.62)	38.68 (9.67)	37.36 (8.98)
Control Group			
Contact Centre	34.87 (11.97)	32.94 (10.53)	35.14 (11.04)
Collections	44.08 (10.00)	43.62 (10.40)	45.19 (9.31)

Table 39

Means, Standard Deviations, Skewness and Kurtosis Values for Work Stressors, Psychological Wellbeing and Non-work Stressors of Intervention Group Participants Working in the Contact Centre

Variable	T1 (n=54)				T2 (n=76)				T3 (n=63)			
	M	SD	γ_1	β_2	M	SD	γ_1	β_2	M	SD	γ_1	β_2
Demands	3.74	0.92	-0.55	-0.47	3.83	0.76	-0.79	0.87	3.85	0.68	-0.20	-0.50
Control	2.19	0.94	0.65	-0.24	2.23	1.07	0.67	-0.77	2.15	0.82	1.01	0.74
Manager Support	3.89	1.03	-1.16	0.78	3.94	0.89	-0.84	0.16	3.77	0.91	-0.71	0.27
Peer Support	4.02	0.81	-0.47	-0.84	4.13	0.77	-0.95	0.89	3.93	0.76	-0.64	-0.12
Relationships	4.67	0.76	-2.79	7.83	4.83	0.44	-2.80	7.12	4.63	0.68	-2.50	7.22
Role	4.31	0.84	-1.18	0.47	4.43	0.62	-0.99	0.23	4.33	0.68	-1.10	1.09
Change	3.21	1.08	-0.52	-0.41	3.41	0.93	-0.22	-0.29	3.25	0.92	0.07	-0.67
Psychological Wellbeing	3.56	3.99	0.73	-0.88	3.28	4.18	0.96	-0.64	4.27	4.40	0.42	-1.54
Non-work Stressors	0.78	0.88	0.80	-0.38	0.77	1.11	1.04	-0.49	0.84	1.02	0.80	-0.71

Table 40
Means, Standard Deviations, Skewness and Kurtosis Values for Work Stressors, Psychological Wellbeing and Non-work Stressors of Intervention Group Participants Working in Collections

Variable	T1 (n=67)			T2 (n=62)			T3 (n=58)		
	M	SD	γ_1	β_2	M	SD	γ_1	β_2	β_2
Demands	4.03	0.66	-0.69	0.27	3.97	0.56	-0.64	0.08	-0.12
Control	2.76	0.9	0.05	-0.44	2.83	1.02	0.06	-0.43	-0.88
Manager Support	3.72	0.87	-0.39	-0.64	3.69	0.89	-0.25	-0.71	-0.82
Peer Support	4.08	0.78	-0.71	0.33	4.11	0.77	-0.87	0.7	0.05
Relationships	4.48	0.81	-1.92	4.3	4.64	0.65	-1.84	2.64	0.99
Role	4.33	0.71	-1.51	3.7	4.17	0.76	-0.71	-0.33	-0.22
Change	3.21	0.98	0.03	-0.75	3.2	0.84	-0.04	-0.28	-0.23
Psychological Wellbeing	3.12	3.79	0.97	-0.34	2.36	3.24	1.47	1.3	-1.09
Non-work Stressors	0.6	0.88	1.32	0.73	0.52	0.87	1.58	1.54	0.36

Table 41
Means, Standard Deviations, Skewness and Kurtosis Values for Work Stressors, Psychological Wellbeing and Non-work Stressors of Control Group Participants Working in the Contact Centre

Variable	T1 (n=71)			T2 (n=67)			T3 (n=51)		
	M	SD	γ_1	β_2	M	SD	γ_1	β_2	β_2
Demands	3.77	0.86	-0.71	0.44	3.84	0.84	-0.70	-0.20	-0.56
Control	2.24	1.06	0.79	-0.19	2.42	0.99	0.58	-0.34	0.15
Manager Support	3.88	0.79	-0.85	0.97	3.85	0.89	-0.58	-0.79	-0.75
Peer Support	4.04	0.55	-0.45	0.09	4.07	0.69	-0.46	-0.55	-0.86
Relationships	4.76	0.52	-2.47	6.10	4.70	0.59	-2.38	6.38	-2.04
Role	4.40	0.60	-0.74	-0.53	4.50	0.59	-1.27	1.23	-0.87
Change	2.97	0.90	-0.18	-0.46	3.29	0.84	-0.48	0.42	-0.37
Psychological Wellbeing	2.36	3.21	1.51	1.47	3.36	4.02	0.76	-1.01	1.26
Non-work Stressors	0.56	0.96	1.62	1.39	0.82	1.12	0.98	-0.60	1.35
									0.42

Table 42

Means, Standard Deviations, Skewness and Kurtosis Values for Work Stressors, Psychological Wellbeing and Non-work Stressors of Control Group Participants Working in Collections

Variable	T1 (n=68)				T2 (n=58)				T3 (n=59)			
	M (SD)	SD	γ_1	β_2	M (SD)	SD	γ_1	β_2	M (SD)	SD	γ_1	β_2
Demands	4.28	0.62	-0.75	-0.30	4.21	0.63	-1.00	1.39	4.31	0.53	-0.64	-0.30
Control	3.18	0.97	0.01	-0.78	3.17	0.95	-0.27	-0.11	3.43	0.93	-0.17	-0.61
Manager Support	3.88	1.08	-0.91	-0.28	3.82	0.95	-0.82	-0.21	3.92	1.03	-0.75	-0.33
Peer Support	4.01	0.85	-0.68	-0.65	4.04	0.81	-1.02	0.44	4.13	0.80	-1.08	0.97
Relationships	4.60	0.66	-1.55	1.38	4.69	0.68	-2.25	3.87	4.63	0.70	-1.88	2.45
Role	4.45	0.72	-1.43	1.59	4.45	0.67	-1.07	0.18	4.44	0.64	-0.93	-0.09
Change	3.54	0.86	-0.09	-0.56	3.50	0.96	-0.43	-0.17	3.71	0.90	-0.22	-0.80
Psychological Wellbeing	3.04	3.96	1.07	-0.30	2.35	3.54	1.47	1.06	2.91	3.94	0.95	-0.65
Non-work Stressors	0.56	0.94	1.45	0.80	0.65	1.01	1.31	0.34	0.74	1.07	1.08	-0.33

Figure 31
Normal Distribution Histogram and Normal Q-Q Plot for Demands at T2 (n= 263)

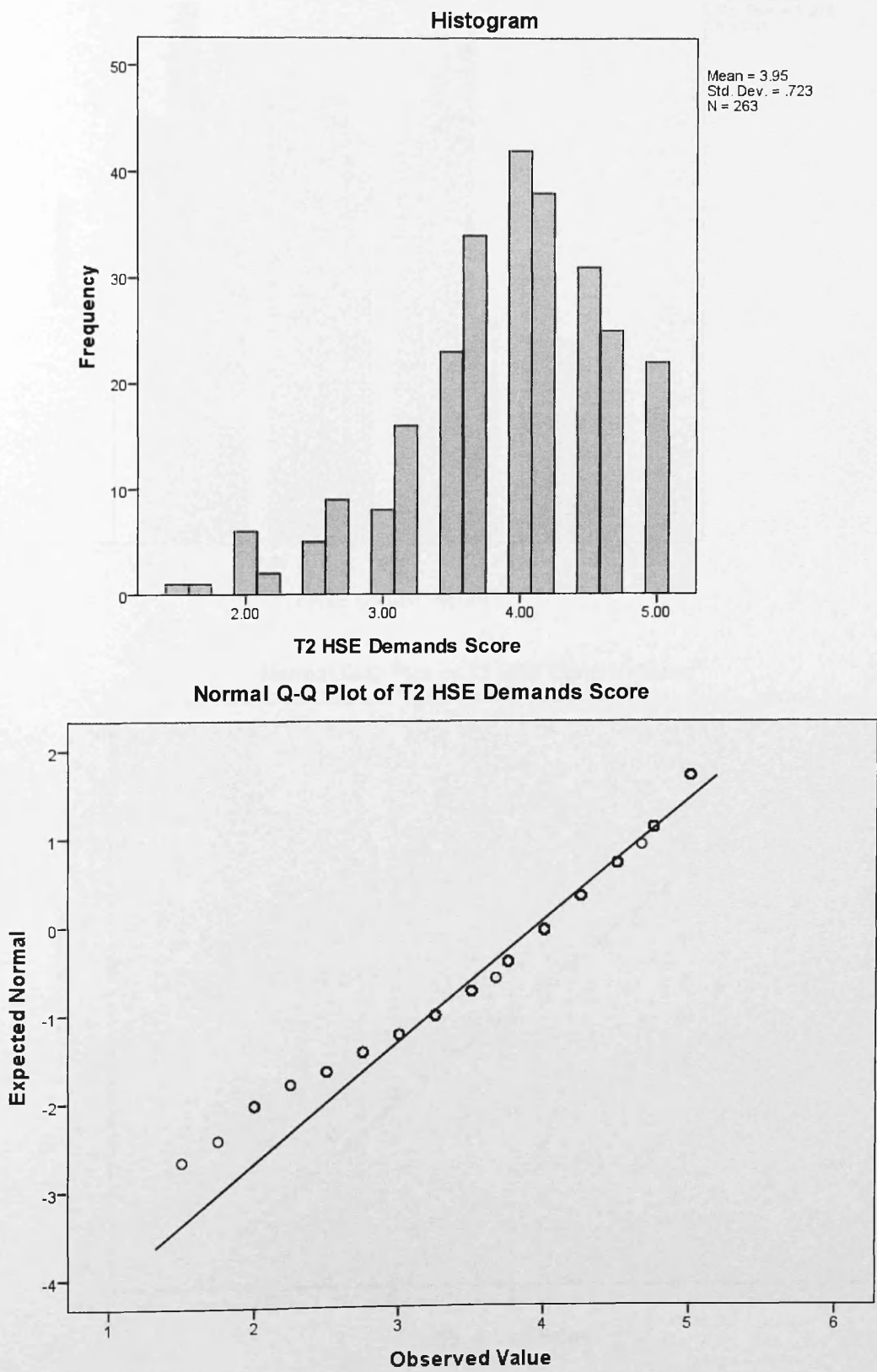


Figure 32
Normal Distribution Histogram and Normal Q-Q Plot for Control at T2 (n= 263)

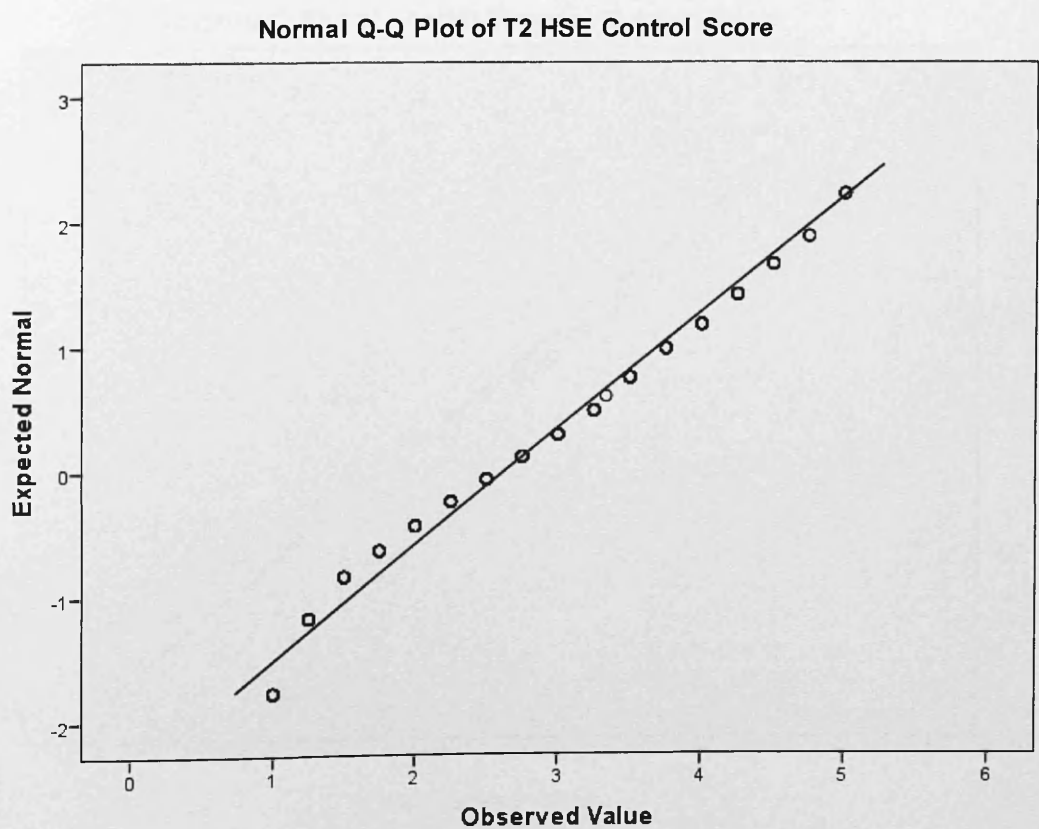
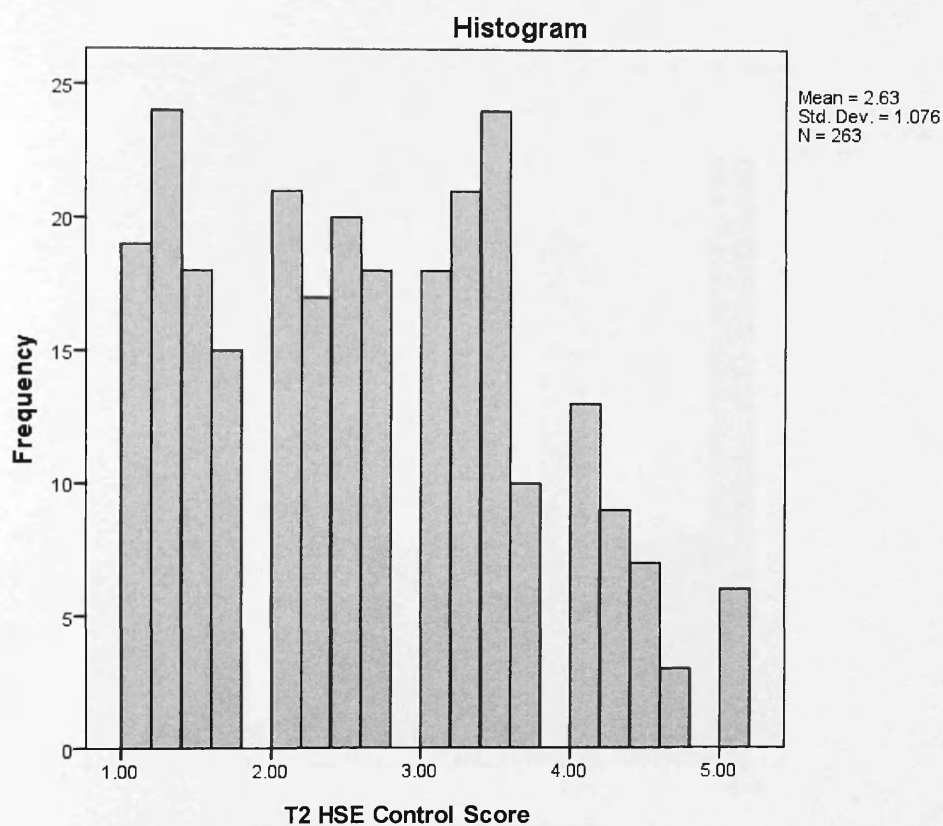


Figure 33
Normal Distribution Histogram and Normal Q-Q Plot for Manager Support at T2
(*n* = 263)

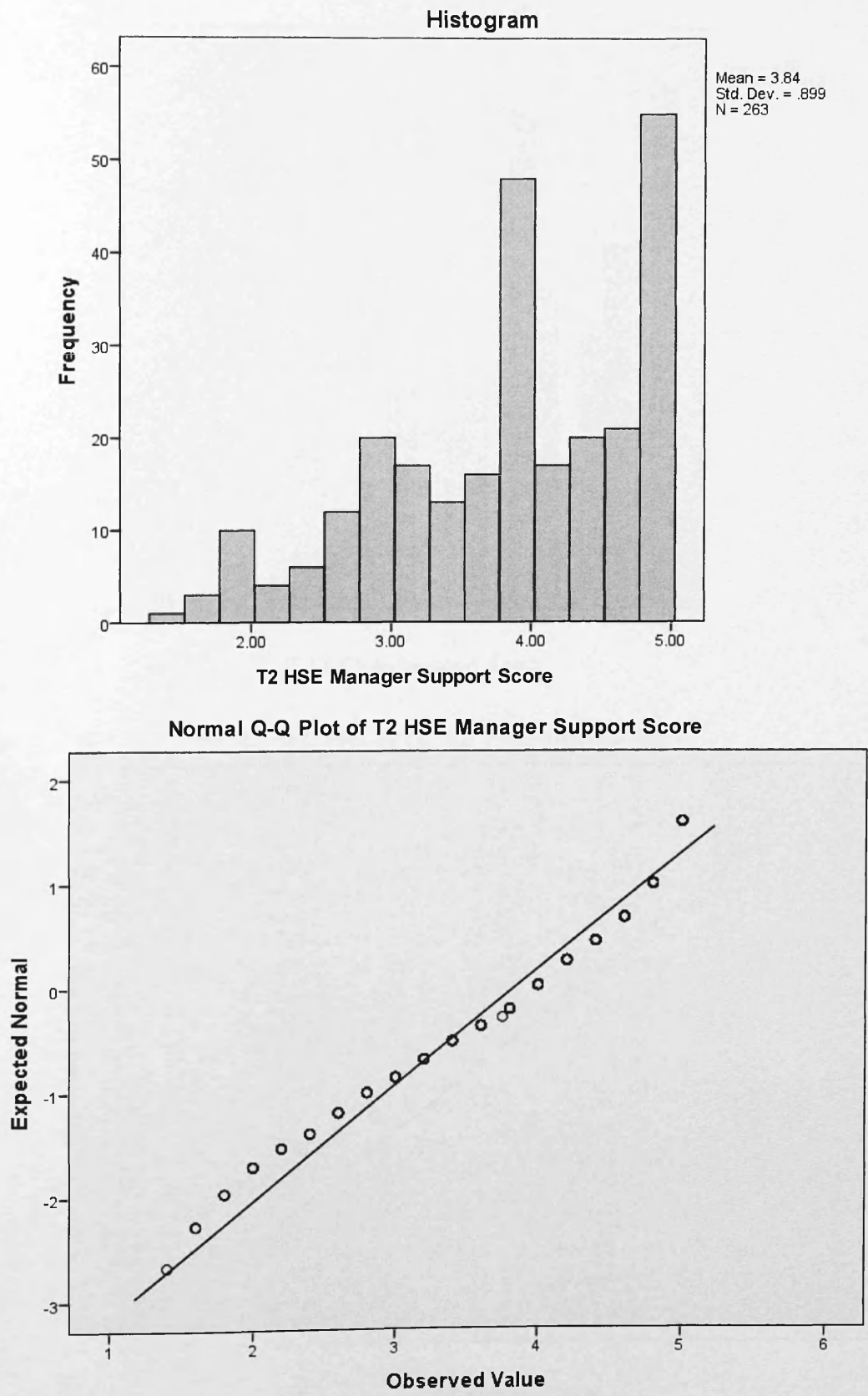


Figure 34
Normal Distribution Histogram and Normal Q-Q Plot for Peer Support at T2 (n= 263)

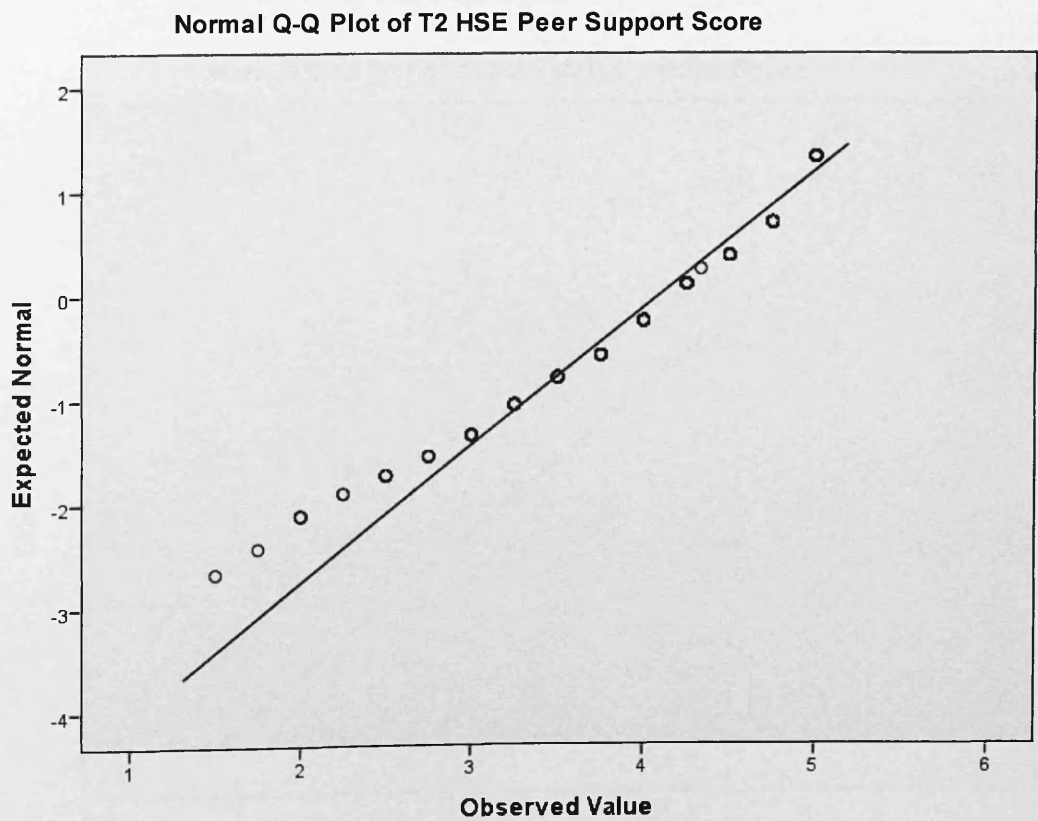
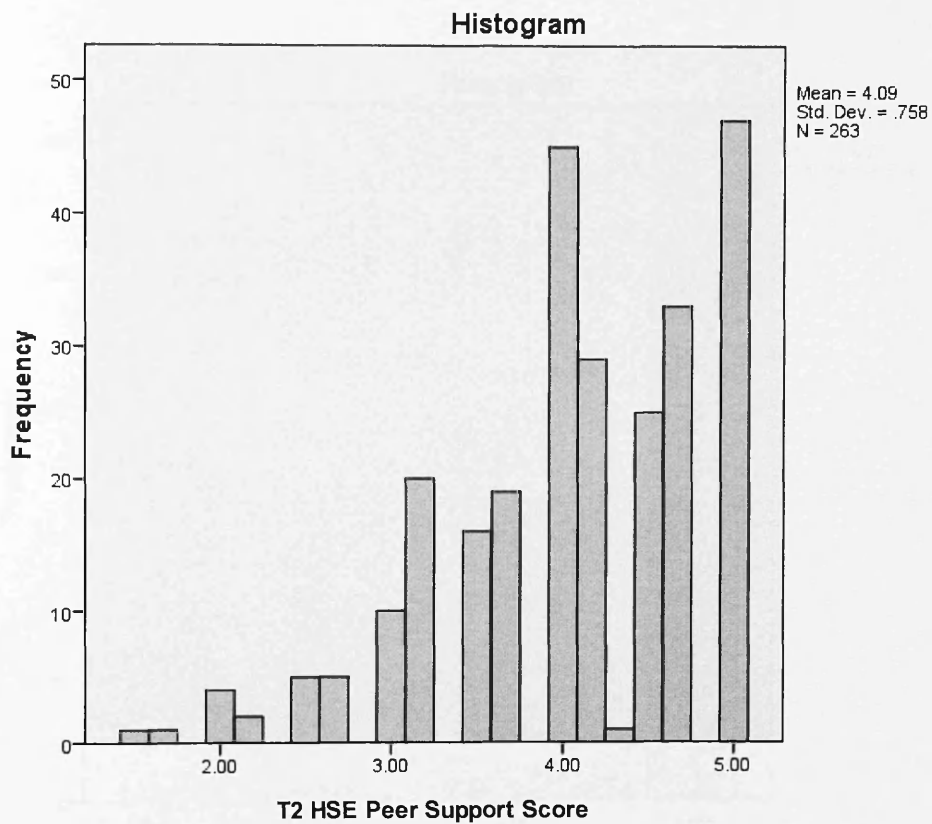


Figure 35
Normal Distribution Histogram and Normal Q-Q Plot for Relationships at T2
(n= 263)

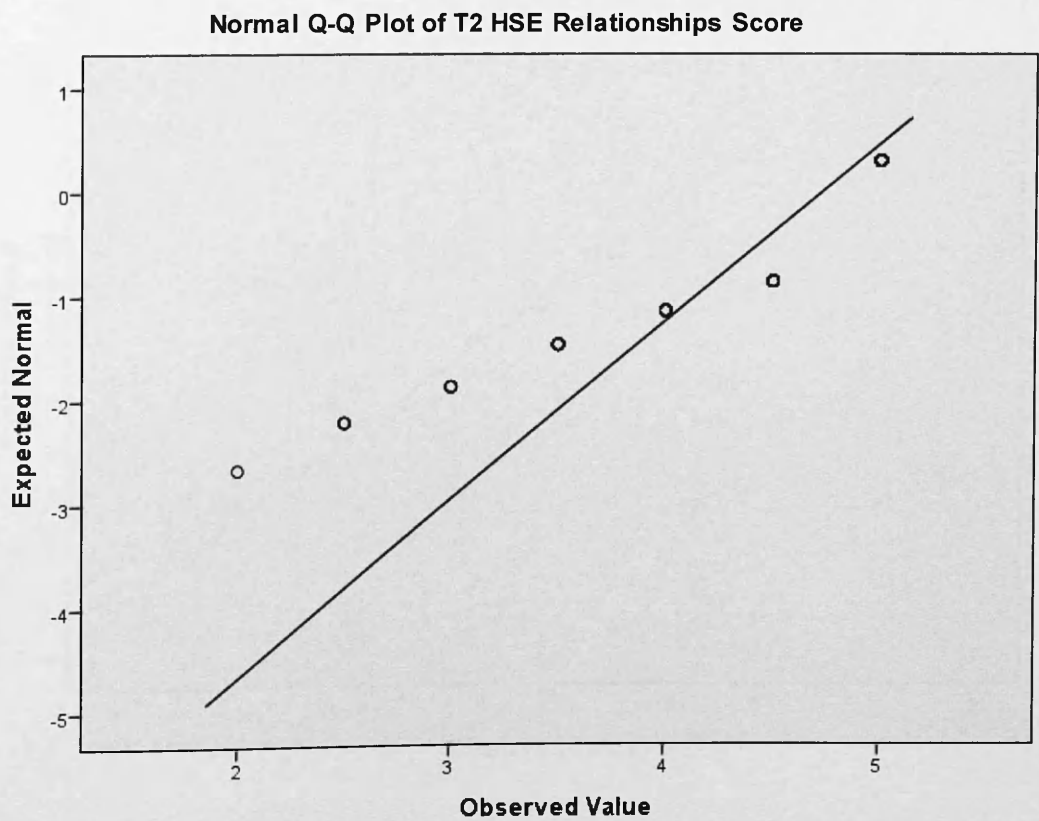
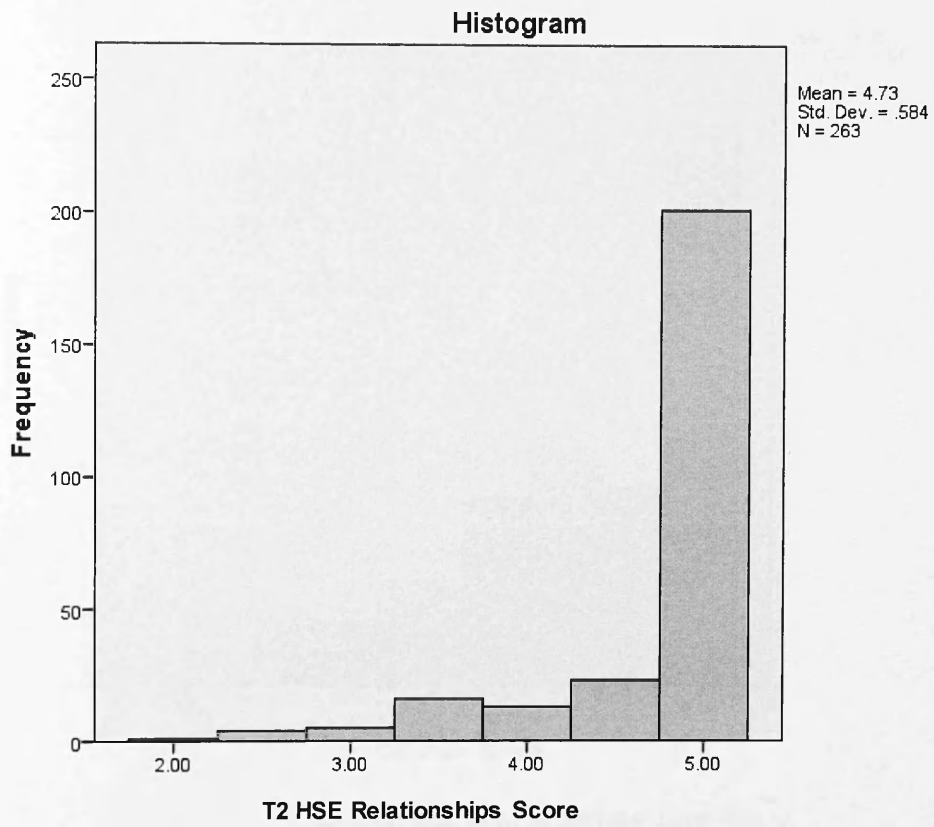


Figure 36
Normal Distribution Histogram and Normal Q-Q Plot for Role at T2 (n=263)

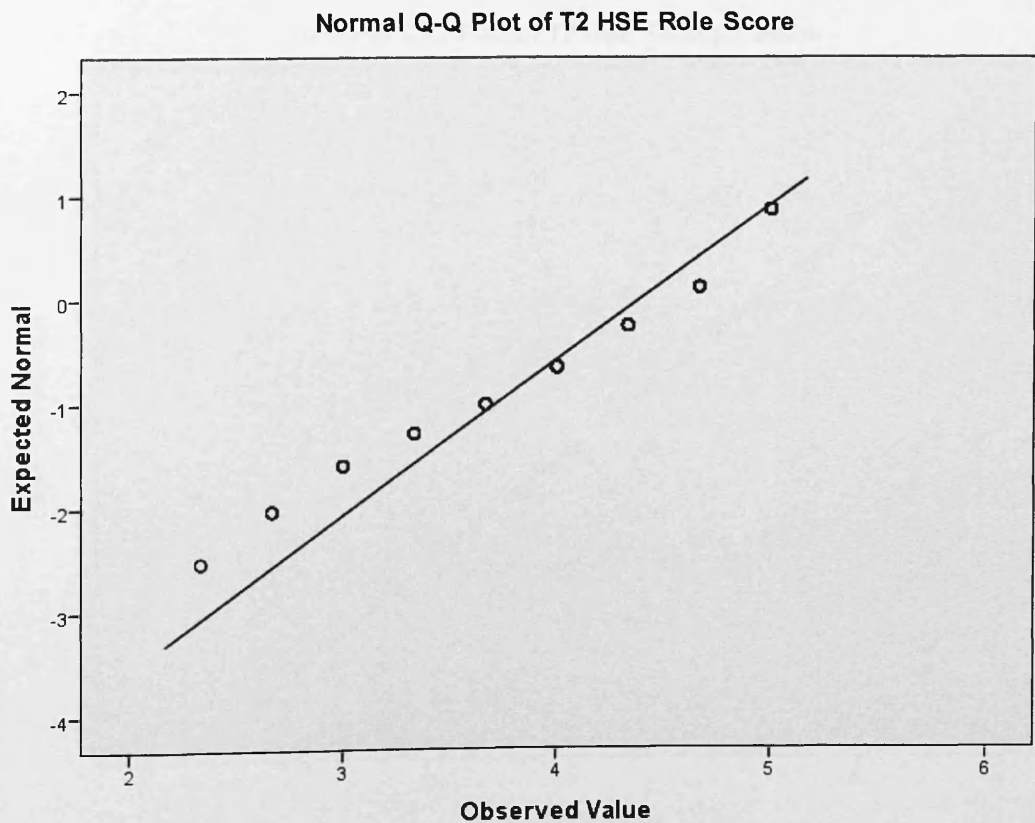
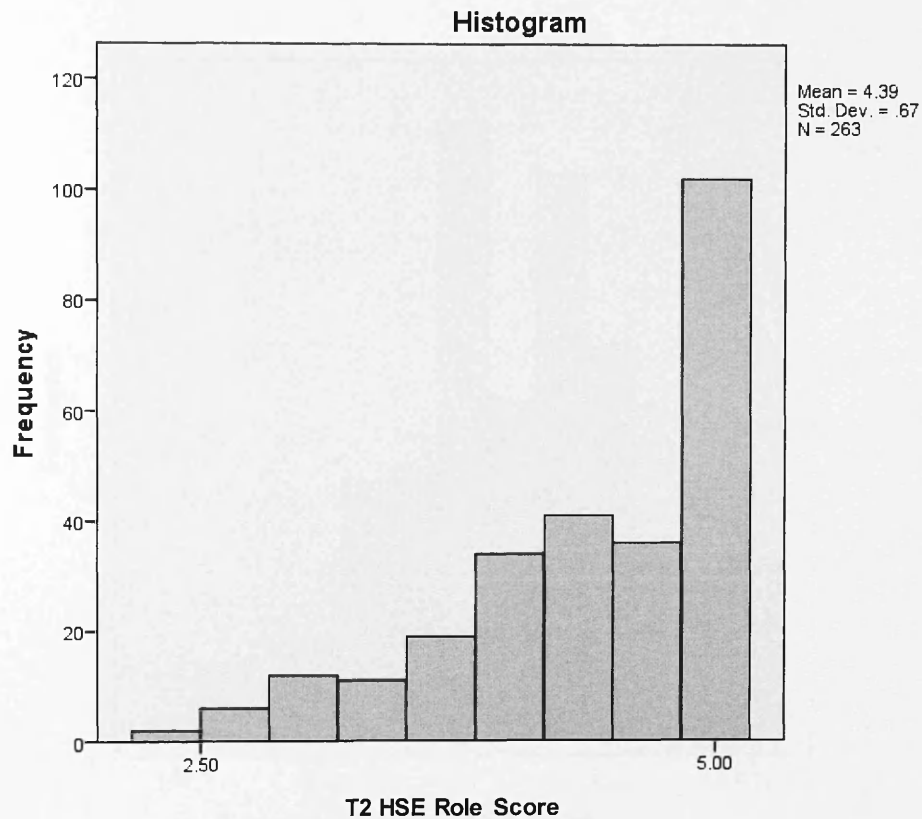
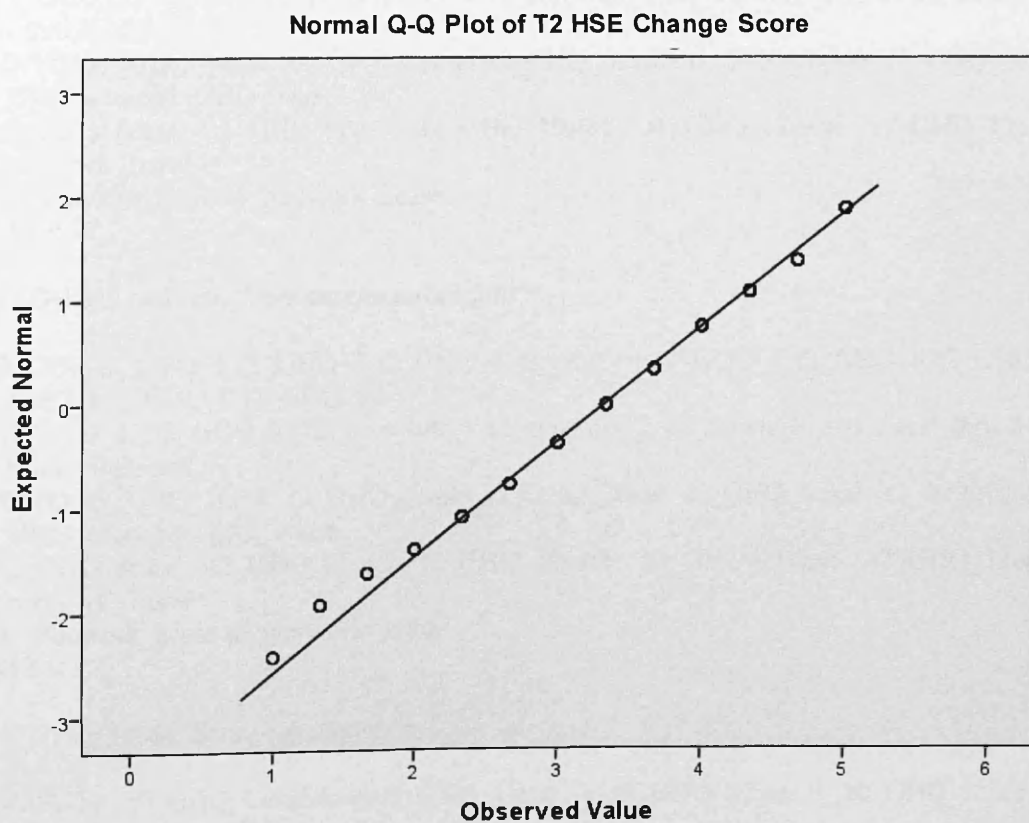
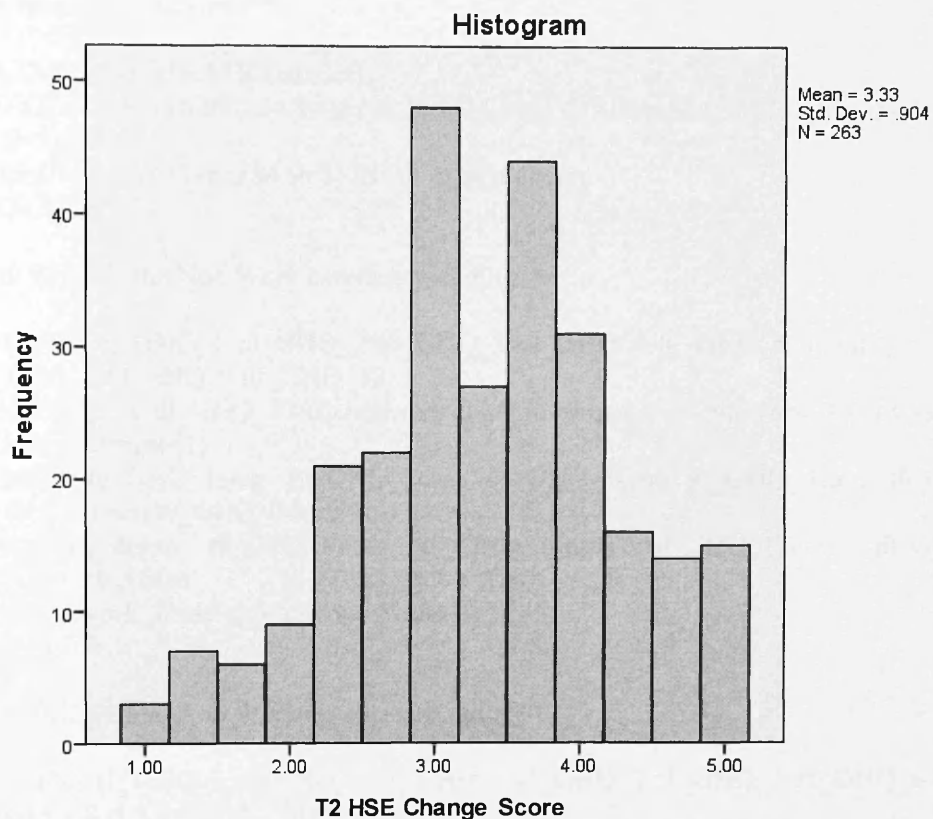


Figure 37
Normal Distribution Histogram and Normal Q-Q Plot for Change at T2 (n=263)



Appendix 14 – IBM SPSS Statistical Test Syntax

****PREPARING THE DATA****

****Create age categories****

DATASET ACTIVATE DataSet1.

RECODE Age (16 thru 24.9=1) (25 thru 34.9=2) (35 thru 44.9=3) (45 thru 54.9=4) (55 thru 64.9=5) (65

thru 74.9=6) (75 thru 84.9=7) INTO AgeCategory.

EXECUTE.

****t0 GHQ12 and Non Work caseness recoding****

RECODE t0_GHQ_1 t0_GHQ_2 t0_GHQ_3 t0_GHQ_4 t0_GHQ_5 t0_GHQ_6 t0_GHQ_7
t0_GHQ_8 t0_GHQ_9 t0_GHQ_10

t0_GHQ_11 t0_GHQ_12 t0_nonwork_1 t0_nonwork_2 t0_nonwork_3 (Lowest thru 2=0)
(2.1 thru Highest=1)

INTO t0_GHQ_1case t0_GHQ_2case t0_GHQ_3case t0_GHQ_4case t0_GHQ_5case
t0_GHQ_6case t0_GHQ_7case

t0_GHQ_8case t0_GHQ_9case t0_GHQ_10case t0_GHQ_11case t0_GHQ_12case
t0_nonwork_1case

t0_nonwork_2case t0_nonwork_3case.

EXECUTE.

****t1 GHQ12 and Non Work caseness recoding****

RECODE t1_GHQ_1 t1_GHQ_2 t1_GHQ_3 t1_GHQ_4 t1_GHQ_5 t1_GHQ_6 t1_GHQ_7
t1_GHQ_8 t1_GHQ_9 t1_GHQ_10

t1_GHQ_11 t1_GHQ_12 t1_nonwork_1 t1_nonwork_2 t1_nonwork_3 (Lowest thru 2=0)
(2.1 thru Highest=1)

INTO t1_GHQ_1case t1_GHQ_2case t1_GHQ_3case t1_GHQ_4case t1_GHQ_5case
t1_GHQ_6case t1_GHQ_7case

t1_GHQ_8case t1_GHQ_9case t1_GHQ_10case t1_GHQ_11case t1_GHQ_12case
t1_nonwork_1case

t1_nonwork_2case t1_nonwork_3case.

EXECUTE.

****t2 GHQ12 and Non Work caseness recoding****

RECODE t2_GHQ_1 t2_GHQ_2 t2_GHQ_3 t2_GHQ_4 t2_GHQ_5 t2_GHQ_6 t2_GHQ_7
t2_GHQ_8 t2_GHQ_9 t2_GHQ_10

t2_GHQ_11 t2_GHQ_12 t2_nonwork_1 t2_nonwork_2 t2_nonwork_3 (Lowest thru 2=0)
(2.1 thru Highest=1)

INTO t2_GHQ_1case t2_GHQ_2case t2_GHQ_3case t2_GHQ_4case t2_GHQ_5case
t2_GHQ_6case t2_GHQ_7case

t2_GHQ_8case t2_GHQ_9case t2_GHQ_10case t2_GHQ_11case t2_GHQ_12case
t2_nonwork_1case

t2_nonwork_2case t2_nonwork_3case.

EXECUTE.

****t0 GHQ12 Case Score calculation****

COMPUTE t0_GHQ_CaseScore=t0_GHQ_1case + t0_GHQ_2case + t0_GHQ_3case +
t0_GHQ_4case + t0_GHQ_5case +

```

t0_GHQ_6case + t0_GHQ_7case + t0_GHQ_8case + t0_GHQ_9case + t0_GHQ_10case +
t0_GHQ_11case +
t0_GHQ_12case.
EXECUTE.

```

****t1 GHQ12 Case Score calculation****

```

COMPUTE t1_GHQ_CaseScore=t1_GHQ_1case + t1_GHQ_2case + t1_GHQ_3case +
t1_GHQ_4case + t1_GHQ_5case +
t1_GHQ_6case + t1_GHQ_7case + t1_GHQ_8case + t1_GHQ_9case + t1_GHQ_10case +
t1_GHQ_11case +
t1_GHQ_12case.
EXECUTE.

```

****t2 GHQ12 Case Score calculation****

```

COMPUTE t2_GHQ_CaseScore=t2_GHQ_1case + t2_GHQ_2case + t2_GHQ_3case +
t2_GHQ_4case + t2_GHQ_5case +
t2_GHQ_6case + t2_GHQ_7case + t2_GHQ_8case + t2_GHQ_9case + t2_GHQ_10case +
t2_GHQ_11case +
t2_GHQ_12case.
EXECUTE.

```

****t0 Non Work Case Score calculation****

```

COMPUTE t0_nonwork_CaseScore=t0_nonwork_1case + t0_nonwork_2case +
t0_nonwork_3case .
EXECUTE.

```

****t1 Non Work Case Score calculation****

```

COMPUTE t1_nonwork_CaseScore=t1_nonwork_1case + t1_nonwork_2case +
t1_nonwork_3case .
EXECUTE.

```

****t2 Non Work Case Score calculation****

```

COMPUTE t2_nonwork_CaseScore=t2_nonwork_1case + t2_nonwork_2case +
t2_nonwork_3case .
EXECUTE.

```

****t0 t1 t2 GHQ Caseness Classifications****

```

RECODE t2_GHQ_CaseScore t0_GHQ_CaseScore t1_GHQ_CaseScore (1 thru 3.9=2) (4 thru
Highest=3) (0 thru
0.9=1) INTO t2_GHQ_Outcome t0_GHQ_Outcome t1_GHQ_Outcome.
EXECUTE.

```

****t0 t1 t2 Non Work Caseness Classifications****

```

RECODE t0_nonwork_CaseScore t1_nonwork_CaseScore t2_nonwork_CaseScore (Lowest
thru 1.9=1) (2 thru
Highest=2) INTO t0_nonwork_outcome t1_nonwork_outcome t2_nonwork_outcome.
EXECUTE.

```

****Recode negative HSE-25 questions demands and relationships****

DATASET ACTIVATE DataSet1.

```
RECODE t0_HSE_1re t0_HSE_2de t0_HSE_7de t0_HSE_11de t0_HSE_13re t0_HSE_14de  
t1_HSE_1re t1_HSE_2de  
t1_HSE_7de t1_HSE_11de t1_HSE_13re t1_HSE_14de t2_HSE_1re t2_HSE_2de  
t2_HSE_7de t2_HSE_11de  
t2_HSE_13re t2_HSE_14de (1=5) (2=4) (3=3) (4=2) (5=1) INTO t0_HSE_1re_REV  
t0_HSE_2de_REV  
t0_HSE_7de_REV t0_HSE_11de_REV t0_HSE_13de_REV t0_HSE_14de_REV  
t1_HSE_1re_REV t1_HSE_2de_REV  
t1_HSE_7de_REV t1_HSE_11de_REV t1_HSE_13re_REV t1_HSE_14de_REV  
t2_HSE_1re_REV t2_HSE_2de_REV  
t2_HSE_7de_REV t2_HSE_11de_REV t2_HSE_13re_REV t2_HSE_14de_REV.  
EXECUTE.
```

****Calc t0 HSE demands****

COMPUTE

```
t0_HSE_demands=MEAN(t0_HSE_2de_REV,t0_HSE_7de_REV,t0_HSE_11de_REV,t0_HSE_14de_REV).  
EXECUTE.
```

****Calc t0 HSE control****

COMPUTE

```
t0_HSE_control=MEAN(t0_HSE_5co,t0_HSE_9co,t0_HSE_12co,t0_HSE_17co).  
EXECUTE.
```

****Calc t0 HSE manager support****

COMPUTE

```
t0_HSE_mgrsupport=MEAN(t0_HSE_4ms,t0_HSE_15ms,t0_HSE_25ms,t0_HSE_24ms,t0_HSE_21ms).  
EXECUTE.
```

****Calc t0 HSE peer support****

COMPUTE

```
t0_HSE_peersupport=MEAN(t0_HSE_3ps,t0_HSE_16ps,t0_HSE_19ps,t0_HSE_22ps).  
EXECUTE.
```

****Calc t0 HSE relationships****

```
COMPUTE t0_HSE_relationships=MEAN(t0_HSE_1re_REV,t0_HSE_13re_REV).  
EXECUTE.
```

****Calc t0 HSE role****

```
COMPUTE t0_HSE_role=MEAN(t0_HSE_6ro,t0_HSE_8ro,t0_HSE_10ro).  
EXECUTE.
```

****Calc t0 HSE change**

```
COMPUTE t0_HSE_change=MEAN(t0_HSE_18ch,t0_HSE_20ch,t0_HSE_23ch).
```

EXECUTE.

****Calc t1 HSE demands****

COMPUTE

t1_HSE_demands=MEAN(t1_HSE_2de_REV,t1_HSE_7de_REV,t1_HSE_11de_REV,t1_HSE_14de_REV).

EXECUTE.

****Calc t1 HSE control****

COMPUTE

t1_HSE_control=MEAN(t1_HSE_5co,t1_HSE_9co,t1_HSE_12co,t1_HSE_17co).

EXECUTE.

****Calc t1 HSE manager support****

COMPUTE

t1_HSE_mgrsupport=MEAN(t1_HSE_4ms,t1_HSE_15ms,t1_HSE_25ms,t1_HSE_24ms,t1_HSE_21ms).

EXECUTE.

****Calc t1 HSE peer support****

COMPUTE

t1_HSE_peersupport=MEAN(t1_HSE_3ps,t1_HSE_16ps,t1_HSE_19ps,t1_HSE_22ps).

EXECUTE.

****Calc t1 HSE relationships****

COMPUTE t1_HSE_relationships=MEAN(t1_HSE_1re_REV,t1_HSE_13re_REV).

EXECUTE.

****Calc t1 HSE role****

COMPUTE t1_HSE_role=MEAN(t1_HSE_6ro,t1_HSE_8ro,t1_HSE_10ro).

EXECUTE.

****Calc t1 HSE change**

COMPUTE t1_HSE_change=MEAN(t1_HSE_18ch,t1_HSE_20ch,t1_HSE_23ch).

EXECUTE.

****Calc t2 HSE demands****

COMPUTE

t2_HSE_demands=MEAN(t2_HSE_2de_REV,t2_HSE_7de_REV,t2_HSE_11de_REV,t2_HSE_14de_REV).

EXECUTE.

****Calc t2 HSE control****

COMPUTE

t2_HSE_control=MEAN(t2_HSE_5co,t2_HSE_9co,t2_HSE_12co,t2_HSE_17co).

EXECUTE.

****Calc t2 HSE manager support****

COMPUTE

t2_HSE_mgrsupport=MEAN(t2_HSE_4ms,t2_HSE_15ms,t2_HSE_25ms,t2_HSE_24ms,t2_HSE_21ms).

EXECUTE.

****Calc t2 HSE peer support****

COMPUTE

t2_HSE_peersupport=MEAN(t2_HSE_3ps,t2_HSE_16ps,t2_HSE_19ps,t2_HSE_22ps).

EXECUTE.

****Calc t2 HSE relationships****

COMPUTE t2_HSE_relationships=MEAN(t2_HSE_1re_REV,t2_HSE_13re_REV).

EXECUTE.

****Calc t2 HSE role****

COMPUTE t2_HSE_role=MEAN(t2_HSE_6ro,t2_HSE_8ro,t2_HSE_10ro).

EXECUTE.

****Calc t2 HSE change**

COMPUTE t2_HSE_change=MEAN(t2_HSE_18ch,t2_HSE_20ch,t2_HSE_23ch).

EXECUTE.

****START DESCRIPTIVES****

****Error checking****

****Look at frequencies - Dept, TM, Age Category, Gender, Role****

DATASET ACTIVATE DataSet1.

FREQUENCIES VARIABLES=t2_dept Gender AgeCategory Role
/ORDER=ANALYSIS.

****Explore t0 HSE25 GHQ12 and NW3****

EXAMINE VARIABLES=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport
t0_HSE_peersupport
t0_HSE_relationships t0_HSE_role t0_HSE_change t0_GHQ_CaseScore
t0_nonwork_CaseScore BY t0_dept
/ID=ID
/PLOT BOXPLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL.

****Explore t1 HSE25 GHQ12 and NW3****


```

EXAMINE    VARIABLES=t1_HSE_demands    t1_HSE_control    t1_HSE_mgrsupport
t1_HSE_peersupport
    t1_HSE_relationships    t1_HSE_role    t1_HSE_change    t1_GHQ_CaseScore
t1_nonwork_CaseScore BY t1_dept
/ID=ID
/PLOT BOXPLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL.

```

****Explore t2 HSE25 GHQ12 and NW3****

```

EXAMINE    VARIABLES=t2_HSE_demands    t2_HSE_control    t2_HSE_mgrsupport
t2_HSE_peersupport
    t2_HSE_relationships    t2_HSE_role    t2_HSE_change    t2_GHQ_CaseScore
t2_nonwork_CaseScore BY t2_dept
/ID=ID
/PLOT BOXPLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL.

```

```

FREQUENCIES VARIABLES=t2_studygroup t2_dept Gender AgeCategory Role
/ORDER=ANALYSIS.

```

****t0 Compare means of HSE25 GHQ12 NW3****

```

MEANS      TABLES=t0_HSE_demands    t0_HSE_control    t0_HSE_mgrsupport
t0_HSE_peersupport
    t0_HSE_relationships    t0_HSE_role    t0_HSE_change    t0_GHQ_CaseScore
t0_nonwork_CaseScore BY t0_dept
/CELLS MEAN COUNT STDDEV.

```

****t1 Compare means of HSE25 GHQ12 NW3****

```

MEANS      TABLES=t1_HSE_demands    t1_HSE_control    t1_HSE_mgrsupport
t1_HSE_peersupport
    t1_HSE_relationships    t1_HSE_role    t1_HSE_change    t1_GHQ_CaseScore
t1_nonwork_CaseScore BY t1_dept
/CELLS MEAN COUNT STDDEV.

```

****t2 Compare means of HSE25 GHQ12 NW3****

```

MEANS      TABLES=t2_HSE_demands    t2_HSE_control    t2_HSE_mgrsupport
t2_HSE_peersupport
    t2_HSE_relationships    t2_HSE_role    t2_HSE_change    t2_GHQ_CaseScore
t2_nonwork_CaseScore BY t2_dept
/CELLS MEAN COUNT STDDEV.

```

****t0 Compare means by Non-work factors present****

MEANS TABLES=t0_GHQ_CaseScore BY t0_dept
/CELLS MEAN COUNT STDDEV.

****t1 Compare means by Non-work factors present****

MEANS TABLES=t1_GHQ_CaseScore BY t1_dept
/CELLS MEAN COUNT STDDEV.

****t2 Compare means by Non-work factors present****

MEANS TABLES=t2_GHQ_CaseScore BY t2_dept
/CELLS MEAN COUNT STDDEV.

****CHECK SCALE RELIABILITY****

****HSE25 at t0****

RELIABILITY

/VARIABLES=t0_HSE_2de_REV t0_HSE_7de_REV t0_HSE_11de_REV
t0_HSE_14de_REV t0_HSE_5co t0_HSE_9co
t0_HSE_12co t0_HSE_17co t0_HSE_4ms t0_HSE_15ms t0_HSE_25ms t0_HSE_24ms
t0_HSE_21ms t0_HSE_3ps
t0_HSE_16ps t0_HSE_19ps t0_HSE_22ps t0_HSE_1re_REV t0_HSE_13re_REV
t0_HSE_6ro t0_HSE_8ro
t0_HSE_10ro t0_HSE_18ch t0_HSE_20ch t0_HSE_23ch
/SCALE('HSE-25 (t0)') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.

****HSE25 at t1****

RELIABILITY

/VARIABLES=t1_HSE_2de_REV t1_HSE_7de_REV t1_HSE_11de_REV
t1_HSE_14de_REV t1_HSE_5co t1_HSE_9co
t1_HSE_12co t1_HSE_17co t1_HSE_4ms t1_HSE_15ms t1_HSE_21ms t1_HSE_24ms
t1_HSE_25ms t1_HSE_3ps
t1_HSE_16ps t1_HSE_19ps t1_HSE_22ps t1_HSE_1re_REV t1_HSE_13re_REV
t1_HSE_6ro t1_HSE_8ro
t1_HSE_10ro t1_HSE_18ch t1_HSE_20ch t1_HSE_23ch
/SCALE('HSE-25 (t1)') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.

****HSE25 at t2****

RELIABILITY

/VARIABLES=t2_HSE_2de_REV t2_HSE_7de_REV t2_HSE_11de_REV
t2_HSE_14de_REV t2_HSE_5co t2_HSE_9co
t2_HSE_12co t2_HSE_17co t2_HSE_4ms t2_HSE_15ms t2_HSE_21ms t2_HSE_24ms
t2_HSE_25ms t2_HSE_3ps
t2_HSE_16ps t2_HSE_19ps t2_HSE_22ps t2_HSE_1re_REV t2_HSE_13re_REV
t2_HSE_6ro t2_HSE_8ro
t2_HSE_10ro t2_HSE_18ch t2_HSE_20ch t2_HSE_23ch

```
/SCALE('HSE-25 (t2)') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

****GHQ12 at t0****

RELIABILITY

```
/VARIABLES=t0_GHQ_1 t0_GHQ_2 t0_GHQ_3 t0_GHQ_4 t0_GHQ_5 t0_GHQ_6
t0_GHQ_7 t0_GHQ_8 t0_GHQ_9
t0_GHQ_10 t0_GHQ_11 t0_GHQ_12
/SCALE('GHQ-12 (t0)') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

****GHQ12 at t1****

RELIABILITY

```
/VARIABLES=t1_GHQ_1 t1_GHQ_2 t1_GHQ_3 t1_GHQ_4 t1_GHQ_5 t1_GHQ_6
t1_GHQ_7 t1_GHQ_8 t1_GHQ_9
t1_GHQ_10 t1_GHQ_11 t1_GHQ_12
/SCALE('GHQ-12 (t1)') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

****GHQ12 at t2****

RELIABILITY

```
/VARIABLES=t2_GHQ_1 t2_GHQ_2 t2_GHQ_3 t2_GHQ_4 t2_GHQ_5 t2_GHQ_6
t2_GHQ_7 t2_GHQ_8 t2_GHQ_9
t2_GHQ_10 t2_GHQ_11 t2_GHQ_12
/SCALE('GHQ-12 (t2)') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

****NW-3 at t0****

RELIABILITY

```
/VARIABLES=t0_nonwork_1 t0_nonwork_2 t0_nonwork_3
/SCALE('NW-3 (t0)') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

****NW-3 at t1****

RELIABILITY

```
/VARIABLES=t1_nonwork_1 t1_nonwork_2 t1_nonwork_3
/SCALE('NW-3 (t1)') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

****NW-3 at t2****

RELIABILITY

```
/VARIABLES=t2_nonwork_1 t2_nonwork_2 t2_nonwork_3
/SCALE('NW-3 (t2)') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

****CALCULATED ADJUSTED REPEATED MEASURES AND MEANS****

****Repeated for each MS for t0t1X, t1t2X, t1Xt2, t0t1t2(?)****

****Demands mean****

DATASET ACTIVATE DataSet1.

COMPUTE

```
demands_grandmean=MEAN(t0_HSE_2de_REV,t0_HSE_7de_REV,t0_HSE_11de_REV,t0_
HSE_14de_REV,
  t1_HSE_2de_REV,t1_HSE_7de_REV,t1_HSE_11de_REV,t1_HSE_14de_REV).
EXECUTE.
```

DESCRIPTIVES VARIABLES=demands_mean

```
/STATISTICS=MEAN STDDEV MIN MAX.
```

****Demands adjustment****

COMPUTE demands_adjustment_t0t1X=3.9951-demands_mean_t0t1X.

EXECUTE.

****Adjusted Demands measures (example)****

COMPUTE t0_HSE_2de_t0t1X=demands_adjustment_t0t1X+t0_HSE_2de_REV.

EXECUTE.

****Adjusted Demands mean****

COMPUTE

```
t0_HSE_demands_t0t1X=MEAN(t0_HSE_2de_t0t1X,t0_HSE_7de_t0t1X,t0_HSE_11de_t0t1
X,
  t0_HSE_14de_t0t1X).
EXECUTE.
```

****DATA ANALYSIS****

****t0t1t2 Data Set****

****H1a Demands****

DATASET ACTIVATE DataSet1.

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_HSE_demands t1_HSE_demands t1_HSE_demands
t2_HSE_demands
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
```

```
T-TEST   PAIRS=t0_HSE_demands   t1_HSE_demands   WITH   t1_HSE_demands
t2_HSE_demands (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.
```

****H1a Control****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_HSE_control t1_HSE_control t1_HSE_control t2_HSE_control
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_HSE_control t1_HSE_control WITH t1_HSE_control t2_HSE_control
(PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.
```

****H1a MgrSupport****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_HSE_mgrsupport t1_HSE_mgrsupport t1_HSE_mgrsupport
t2_HSE_mgrsupport
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_HSE_mgrsupport t1_HSE_mgrsupport WITH t1_HSE_mgrsupport
t2_HSE_mgrsupport (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.
```

****H1a PeerSupport****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_HSE_peersupport t1_HSE_peersupport t1_HSE_peersupport
t2_HSE_peersupport
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_HSE_peersupport t1_HSE_peersupport WITH t1_HSE_peersupport
t2_HSE_peersupport
(PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.
```

****H1a Relationships**

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_HSE_relationships t1_HSE_relationships t1_HSE_relationships
t2_HSE_relationships
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_HSE_relationships t1_HSE_relationships WITH t1_HSE_relationships
t2_HSE_relationships (PAIRED)
/CRITERIA=CI(.9500)
```

/MISSING=ANALYSIS.

****H1a Role****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES INPUT=t0_HSE_role t1_HSE_role t1_HSE_role t2_HSE_role

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST PAIRS=t0_HSE_role t1_HSE_role WITH t1_HSE_role t2_HSE_role (PAIRED)

/CRITERIA=CI(.9500)

/MISSING=ANALYSIS.

****H1a Change****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES INPUT=t0_HSE_change t1_HSE_change t1_HSE_change t2_HSE_change

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST PAIRS=t0_HSE_change t1_HSE_change WITH t1_HSE_change t2_HSE_change (PAIRED)

/CRITERIA=CI(.9500)

/MISSING=ANALYSIS.

****t0t1X Data Set****

****H1a Demands****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES INPUT=t0_HSE_demands t1_HSE_demands

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST PAIRS=t0_HSE_demands WITH t1_HSE_demands (PAIRED)

/CRITERIA=CI(.9500)

/MISSING=ANALYSIS.

****H1a Control****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES INPUT=t0_HSE_control t1_HSE_control

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST PAIRS=t0_HSE_control WITH t1_HSE_control (PAIRED)

/CRITERIA=CI(.9500)

/MISSING=ANALYSIS.

****H1a MgrSupport****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES INPUT=t0_HSE_mgrsupport t1_HSE_mgrsupport

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

```
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t0_HSE_mgrsupport WITH t1_HSE_mgrsupport (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****H1a PeerSupport****

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE  
/VARIABLES INPUT=t0_HSE_peersupport t1_HSE_peersupport  
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t0_HSE_peersupport WITH t1_HSE_peersupport (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****H1a Relationships****

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE  
/VARIABLES INPUT=t0_HSE_relationships t1_HSE_relationships  
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t0_HSE_relationships WITH t1_HSE_relationships (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****H1a Role****

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE  
/VARIABLES INPUT=t0_HSE_role t1_HSE_role  
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t0_HSE_role WITH t1_HSE_role (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****H1a Change****

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE  
/VARIABLES INPUT=t0_HSE_change t1_HSE_change  
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t0_HSE_change WITH t1_HSE_change (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****Xt1t2 Data Set****

****H1a Demands****

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE
```

```
/VARIABLES INPUT=t1_HSE_demands t2_HSE_demands  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t1_HSE_demands WITH t2_HSE_demands (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****H1a Control****

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE  
/VARIABLES INPUT=t1_HSE_control t2_HSE_control  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t1_HSE_control WITH t2_HSE_control (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****H1a Mgr Support****

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE  
/VARIABLES INPUT=t1_HSE_mgrsupport t2_HSE_mgrsupport  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t1_HSE_mgrsupport WITH t2_HSE_mgrsupport (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****H1a PeerSupport****

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE  
/VARIABLES INPUT=t1_HSE_peersupport t2_HSE_peersupport  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t1_HSE_peersupport WITH t2_HSE_peersupport (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****H1a Relationships****

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE  
/VARIABLES INPUT=t1_HSE_relationships t2_HSE_relationships  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.  
T-TEST PAIRS=t1_HSE_relationships WITH t2_HSE_relationships (PAIRED)  
/CRITERIA=CI(.9500)  
/MISSING=ANALYSIS.
```

****H1a Role***

```
BOOTSTRAP  
/SAMPLING METHOD=SIMPLE
```



```

/VARIABLES INPUT=t1_HSE_role t2_HSE_role
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t1_HSE_role WITH t2_HSE_role (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.

```

****H1a Change****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t1_HSE_change t2_HSE_change
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t1_HSE_change WITH t2_HSE_change (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.

```

****t0t1t2 Data Set****

****H2a GHQ12 t0t1_t2****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_GHQ_CaseScore t1_GHQ_CaseScore
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_GHQ_CaseScore WITH t1_GHQ_CaseScore (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.

```

****H2a GHQ12 t0_t1t2****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t1_GHQ_CaseScore t2_GHQ_CaseScore
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t1_GHQ_CaseScore WITH t2_GHQ_CaseScore (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.

```

****H2a GHQ12 t0t1X****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_GHQ_CaseScore t1_GHQ_CaseScore
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_GHQ_CaseScore WITH t1_GHQ_CaseScore (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.

```

****H2a GHQ12 Xt1t2****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES INPUT=t1_GHQ_CaseScore t2_GHQ_CaseScore

/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST PAIRS=t1_GHQ_CaseScore WITH t2_GHQ_CaseScore (PAIRED)

/CRITERIA=CI(.9500)

/MISSING=ANALYSIS.

****t0_DATA ****

****H1b HSE t0****

****By Intervention/Control****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport
t0_HSE_peersupport

t0_HSE_relationships t0_HSE_role t0_HSE_change INPUT=t0_studygroup

/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST GROUPS=t0_studygroup(1 2)

/MISSING=ANALYSIS

/VARIABLES=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport
t0_HSE_peersupport

t0_HSE_relationships t0_HSE_role t0_HSE_change

/CRITERIA=CI(.95).

****By Intervention/Control then Collections/Contact Centre****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport
t0_HSE_peersupport

t0_HSE_relationships t0_HSE_role t0_HSE_change INPUT=t0_dept

/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST GROUPS=t0_dept(1 2)

/MISSING=ANALYSIS

/VARIABLES=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport
t0_HSE_peersupport

t0_HSE_relationships t0_HSE_role t0_HSE_change

/CRITERIA=CI(.95).

****By Collections/Contact Centre****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport
t0_HSE_peersupport

t0_HSE_relationships t0_HSE_role t0_HSE_change INPUT=t0_dept

/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST GROUPS=t0_dept(1 2)

```

/MISSING=ANALYSIS
/VARIABLES=t0_HSE_demands          t0_HSE_control          t0_HSE_mgrsupport
t0_HSE_peersupport
t0_HSE_relationships t0_HSE_role t0_HSE_change
/CRITERIA=CI(.95).

```

****By Collections/Contact Centre then Intervention/Control ****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES    TARGET=t0_HSE_demands    t0_HSE_control    t0_HSE_mgrsupport
t0_HSE_peersupport
t0_HSE_relationships t0_HSE_role t0_HSE_change INPUT=t0_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0_studygroup(1 2)
/MISSING=ANALYSIS
/VARIABLES=t0_HSE_demands          t0_HSE_control          t0_HSE_mgrsupport
t0_HSE_peersupport
t0_HSE_relationships t0_HSE_role t0_HSE_change
/CRITERIA=CI(.95).

```

****H1b GHQ & NW t0****

****By Intervention/Control****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES          TARGET=t0_GHQ_CaseScore          t0_nonwork_CaseScore
INPUT=t0_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0_studygroup(1 2)
/MISSING=ANALYSIS
/VARIABLES=t0_GHQ_CaseScore t0_nonwork_CaseScore
/CRITERIA=CI(.95).

```

****By Intervention/Control then Collections/Contact Centre****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t0_GHQ_CaseScore t0_nonwork_CaseScore INPUT=t0_dept
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0_dept(1 2)
/MISSING=ANALYSIS
/VARIABLES=t0_GHQ_CaseScore t0_nonwork_CaseScore
/CRITERIA=CI(.95).

```

****By Collections/Contact Centre****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t0_GHQ_CaseScore t0_nonwork_CaseScore INPUT=t0_dept
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

```

```

/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0_dept(1 2)
/MISSING=ANALYSIS
/VARIABLES=t0_GHQ_CaseScore t0_nonwork_CaseScore
/CRITERIA=CI(.95).

```

****By Collections/Contact Centre then Intervention/Control****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES          TARGET=t0_GHQ_CaseScore          t0_nonwork_CaseScore
INPUT=t0_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0_studygroup(1 2)
/MISSING=ANALYSIS
/VARIABLES=t0_GHQ_CaseScore t0_nonwork_CaseScore
/CRITERIA=CI(.95).

```

****t1_DATA ****

****H1b HSE t1****

****By Intervention/Control****

```

DATASET ACTIVATE DataSet5.
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES  TARGET=t1_HSE_demands    t1_HSE_control    t1_HSE_mgrsupport
t1_HSE_peersupport
t1_HSE_relationships t1_HSE_role t1_HSE_change INPUT=t1_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_studygroup(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_HSE_demands          t1_HSE_control          t1_HSE_mgrsupport
t1_HSE_peersupport
t1_HSE_relationships t1_HSE_role t1_HSE_change
/CRITERIA=CI(.95).

```

****By Intervention/Control then Collections/Contact Centre****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES  TARGET=t1_HSE_demands    t1_HSE_control    t1_HSE_mgrsupport
t1_HSE_peersupport
t1_HSE_relationships t1_HSE_role t1_HSE_change INPUT=t1_dept
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_dept(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_HSE_demands          t1_HSE_control          t1_HSE_mgrsupport
t1_HSE_peersupport
t1_HSE_relationships t1_HSE_role t1_HSE_change
/CRITERIA=CI(.95).

```

****By Collections/Contact Centre****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
t1_HSE_peersupport
t1_HSE_relationships t1_HSE_role t1_HSE_change INPUT=t1_dept
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_dept(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
t1_HSE_peersupport
t1_HSE_relationships t1_HSE_role t1_HSE_change
/CRITERIA=CI(.95).
```

****By Collections/Contact Centre then Intervention/Control****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
t1_HSE_peersupport
t1_HSE_relationships t1_HSE_role t1_HSE_change INPUT=t1_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_studygroup(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
t1_HSE_peersupport
t1_HSE_relationships t1_HSE_role t1_HSE_change
/CRITERIA=CI(.95).
```

****H1b GHQ & NW t1****

****By Intervention/Control****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore t1_nonwork_CaseScore
INPUT=t1_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_studygroup(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_GHQ_CaseScore t1_nonwork_CaseScore
/CRITERIA=CI(.95).
```

****By Intervention/Control then Collections/Contact Centre****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore t1_nonwork_CaseScore INPUT=t1_dept
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
```

```
T-TEST GROUPS=t1_dept(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_GHQ_CaseScore t1_nonwork_CaseScore
/CRITERIA=CI(.95).
```

****By Collections/Contact Centre****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore t1_nonwork_CaseScore INPUT=t1_dept
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_dept(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_GHQ_CaseScore t1_nonwork_CaseScore
/CRITERIA=CI(.95).
```

****By Collections/Contact Centre then Intervention/Control****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore t1_nonwork_CaseScore
INPUT=t1_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_studygroup(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_GHQ_CaseScore t1_nonwork_CaseScore
/CRITERIA=CI(.95).
```

****t2_DATA ****

****H1b HSE t2****

****By Intervention/Control****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t2_HSE_demands t2_HSE_control t2_HSE_mgrsupport
t2_HSE_peersupport
t2_HSE_relationships t2_HSE_role t2_HSE_change INPUT=t2_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t2_studygroup(1 2)
/MISSING=ANALYSIS
/VARIABLES=t2_HSE_demands t2_HSE_control t2_HSE_mgrsupport
t2_HSE_peersupport
t2_HSE_relationships t2_HSE_role t2_HSE_change
/CRITERIA=CI(.95).
```

****By Intervention/Control then Collections/Contact Centre****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
```

```

/VARIABLES    TARGET=t2_HSE_demands    t2_HSE_control    t2_HSE_mgrsupport
t2_HSE_peersupport
  t2_HSE_relationships t2_HSE_role t2_HSE_change INPUT=t2_dept
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t2_dept(1 2)
/MISSING=ANALYSIS
/VARIABLES=t2_HSE_demands          t2_HSE_control          t2_HSE_mgrsupport
t2_HSE_peersupport
  t2_HSE_relationships t2_HSE_role t2_HSE_change
/CRITERIA=CI(.95).

```

****By Collections/Contact Centre****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES    TARGET=t2_HSE_demands    t2_HSE_control    t2_HSE_mgrsupport
t2_HSE_peersupport
  t2_HSE_relationships t2_HSE_role t2_HSE_change INPUT=t2_dept
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t2_dept(1 2)
/MISSING=ANALYSIS
/VARIABLES=t2_HSE_demands          t2_HSE_control          t2_HSE_mgrsupport
t2_HSE_peersupport
  t2_HSE_relationships t2_HSE_role t2_HSE_change
/CRITERIA=CI(.95).

```

****By Collections/Contact Centre then Intervention/Control****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES    TARGET=t2_HSE_demands    t2_HSE_control    t2_HSE_mgrsupport
t2_HSE_peersupport
  t2_HSE_relationships t2_HSE_role t2_HSE_change INPUT=t2_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t2_studygroup(1 2)
/MISSING=ANALYSIS
/VARIABLES=t2_HSE_demands          t2_HSE_control          t2_HSE_mgrsupport
t2_HSE_peersupport
  t2_HSE_relationships t2_HSE_role t2_HSE_change
/CRITERIA=CI(.95).

```

H1b GHQ & NW t2*

****By Intervention/Control****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES          TARGET=t2_GHQ_CaseScore          t2_nonwork_CaseScore
INPUT=t2_studygroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t2_studygroup(1 2)

```

```
/MISSING=ANALYSIS  
/VARIABLES=t2_GHQ_CaseScore t2_nonwork_CaseScore  
/CRITERIA=CI(.95).
```

****By Intervention/Control then Collections/Contact Centre****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE  
/VARIABLES TARGET=t2_GHQ_CaseScore t2_nonwork_CaseScore INPUT=t2_dept  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.
```

T-TEST GROUPS=t2_dept(1 2)

```
/MISSING=ANALYSIS  
/VARIABLES=t2_GHQ_CaseScore t2_nonwork_CaseScore  
/CRITERIA=CI(.95).
```

****By Collections/Contact Centre****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE  
/VARIABLES TARGET=t2_GHQ_CaseScore t2_nonwork_CaseScore INPUT=t2_dept  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.
```

T-TEST GROUPS=t2_dept(1 2)

```
/MISSING=ANALYSIS  
/VARIABLES=t2_GHQ_CaseScore t2_nonwork_CaseScore  
/CRITERIA=CI(.95).
```

****By Collections/Contact Centre then Intervention/Control****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE  
/VARIABLES TARGET=t2_GHQ_CaseScore t2_nonwork_CaseScore
```

INPUT=t2_studygroup

```
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.
```

T-TEST GROUPS=t2_studygroup(1 2)

```
/MISSING=ANALYSIS  
/VARIABLES=t2_GHQ_CaseScore t2_nonwork_CaseScore  
/CRITERIA=CI(.95).
```

****t0_DATA****

****H3 t0 GHQ by NW****

DATASET ACTIVATE DataSet2.

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE  
/VARIABLES TARGET=t0_GHQ_CaseScore INPUT=t0_nonwork_Outcome  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.
```

T-TEST GROUPS=t0_nonwork_Outcome(1 2)

```
/MISSING=ANALYSIS  
/VARIABLES=t0_GHQ_CaseScore  
/CRITERIA=CI(.95).
```


****t1_DATA****

****H3 t1 GHQ by NW****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=t1_GHQ_CaseScore INPUT=t1_nonwork_Outcome

/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST GROUPS=t1_nonwork_Outcome(1 2)

/MISSING=ANALYSIS

/VARIABLES=t1_GHQ_CaseScore

/CRITERIA=CI(.95).

****t2_DATA****

****H3 t2 GHQ by NW****

DATASET ACTIVATE DataSet4.

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=t2_GHQ_CaseScore INPUT=t2_nonwork_Outcome

/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST GROUPS=t2_nonwork_Outcome(1 2)

/MISSING=ANALYSIS

/VARIABLES=t2_GHQ_CaseScore

/CRITERIA=CI(.95).

****t0t1t2 data set, Collections CRMs only****

****Mixed between-within ANOVA IntCtrl****

****Demands****

GLM t0_HSE_demands t1_HSE_demands t2_HSE_demands BY t0_studygroup

/WSFACTOR=Time 3 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Time*t0_studygroup)

/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY

/CRITERIA=ALPHA(.05)

/WSDESIGN=Time

/DESIGN=t0_studygroup.

****Control****

GLM t0_HSE_control t1_HSE_control t2_HSE_control BY t0_studygroup

/WSFACTOR=Time 3 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Time*t0_studygroup)

/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY

/CRITERIA=ALPHA(.05)

/WSDESIGN=Time

/DESIGN=t0_studygroup.

****MgrSupport****

```
GLM t0_HSE_mgrsupport t1_HSE_mgrsupport t2_HSE_mgrsupport BY t0_studygroup
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0_studygroup)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0_studygroup.
```

****PeerSupport****

```
GLM t0_HSE_peersupport t1_HSE_peersupport t2_HSE_peersupport BY t0_studygroup
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0_studygroup)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0_studygroup.
```

****Relationships****

```
GLM t0_HSE_relationships t1_HSE_relationships t2_HSE_relationships BY t0_studygroup
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0_studygroup)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0_studygroup.
```

****Role****

```
GLM t0_HSE_role t1_HSE_role t2_HSE_role BY t0_studygroup
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0_studygroup)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0_studygroup.
```

****Change****

```
GLM t0_HSE_change t1_HSE_change t2_HSE_change BY t0_studygroup
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0_studygroup)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0_studygroup.
```

****GHQ12****

```
GLM t0_GHQ_CaseScore t1_GHQ_CaseScore t2_GHQ_CaseScore BY t0_studygroup
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0_studygroup)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0_studygroup.
```

****Multiple Linear Regression****

****H4 #1****

```
REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_studygroup
/METHOD=ENTER t1_HSE_demands t1_HSE_control t1_HSE_change
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.
```

****Case summaries for outliers****

```
SUMMARIZE
/TABLES=MAH_1 COO_1 LEV_1 SDB1_1 SDB2_1 SDB3_1 SDB4_1 COV_1
/FORMAT=VALIDLIST NOCASENUM TOTAL LIMIT=100
/TITLE='Case Summaries'
/MISSING=VARIABLE
/CELLS=COUNT.
```

****H4 Exploratory #1 ****

```
REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_studygroup
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/METHOD=ENTER t1_HSE_mgrsupport t1_HSE_peersupport t1_HSE_role
t1_HSE_change
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
```

```
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID SRESID SDRESID
SDBETA SDFIT COVRATIO.
```

****H4 #2****

```
DATASET ACTIVATE DataSet1.
REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_dept
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID ,*ZPRED) (*SRESID ,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.
```

****H4 #3****

```
DATASET ACTIVATE DataSet1.
REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t0t1_Intervention
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID ,*ZPRED) (*SRESID ,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.
```

****H4 #4i****

```
REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_nonwork_Outcome
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID ,*ZPRED) (*SRESID ,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
```

```
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID  
SDBETA SDFIT COVRATIO.
```

****H4 #4i Bootstrap****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE  
/VARIABLES TARGET=t1_GHQ_CaseScore INPUT= t1_nonwork_Outcome  
t1_HSE_demands t1_HSE_control  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.
```

REGRESSION

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N  
/MISSING LISTWISE  
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT t1_GHQ_CaseScore  
/METHOD=ENTER t1_nonwork_Outcome  
/METHOD=ENTER t1_HSE_demands t1_HSE_control  
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)  
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)  
/CASEWISE PLOT(ZRESID) OUTLIERS(2).
```

****H4 #4ii****

REGRESSION

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N  
/MISSING LISTWISE  
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT t1_GHQ_CaseScore  
/METHOD=ENTER t1_nonwork_CaseScore  
/METHOD=ENTER t1_HSE_demands t1_HSE_control  
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)  
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)  
/CASEWISE PLOT(ZRESID) OUTLIERS(2)  
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID  
SDBETA SDFIT COVRATIO.
```

****H4 #4ii Bootstrap****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE  
/VARIABLES TARGET=t1_GHQ_CaseScore INPUT= t1_nonwork_CaseScore  
t1_HSE_demands t1_HSE_control  
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000  
/MISSING USERMISSING=EXCLUDE.
```

REGRESSION

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N  
/MISSING LISTWISE  
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN
```

```

/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_nonwork_CaseScore
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2).

```

****H4 #5****

```

DATASET ACTIVATE DataSet1.
REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER Role_2
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****H4 #6i****

```

REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER Role_2
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****H4 #6i Bootstrap****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore INPUT= Role_2 t1_HSE_demands
t1_HSE_control
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)

```

```

/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER Role_2
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2).

```

****H4 #6ii****

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER Role_2
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****H4 #6ii Bootstrap****

BOOTSTRAP

```

/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore INPUT= Role_2 t1_HSE_demands
t1_HSE_control
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.

```

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER Role_2
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2).

```

****H4 #7****

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore

```

```

/METHOD=ENTER FTE
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****H4 #8****

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER Gender
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****H4 #9****

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER Age
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****H4 #9 Bootstrap****

BOOTSTRAP

```

/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore INPUT= Age t1_HSE_demands
t1_HSE_control
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.

```

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)

```



```

/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER Age
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID ,*ZPRED) (*SRESID ,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2).

```

****H4 #10****

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_nonwork_CaseScore
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID ,*ZPRED) (*SRESID ,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****H4 #10 Bootstrap****

BOOTSTRAP

```

/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore INPUT= t1_nonwork_CaseScore
t1_HSE_demands t1_HSE_control
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.

```

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_nonwork_CaseScore
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID ,*ZPRED) (*SRESID ,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2).

```

****H4 #11****

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore

```

```

/METHOD=ENTER t1_nonwork_CaseScore
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****H4 #11 Bootstrap****

BOOTSTRAP

```

/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore INPUT= t1_nonwork_CaseScore
t1_HSE_demands t1_HSE_control
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.

```

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_nonwork_CaseScore
/METHOD=ENTER t1_HSE_demands t1_HSE_control
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2).

```

****t0t1 Dataset****

****H1ai Paired t-test t0 and t1. Split by Intervention Exposure****

****Demands****

BOOTSTRAP

```

/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_HSE_demands t1_HSE_demands
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_HSE_demands WITH t1_HSE_demands (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.

```

****Control****

BOOTSTRAP

```

/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_HSE_control t1_HSE_control
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_HSE_control WITH t1_HSE_control (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.

```

****t1 Dataset****

****H1 bi Indpt t-test at t1****

****Grouped by Non-work factors****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=t1_HSE_demands t1_HSE_control INPUT=t1_nonwork_Outcome

/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST GROUPS=t1_nonwork_Outcome(1 2)

/MISSING=ANALYSIS

/VARIABLES=t1_HSE_demands t1_HSE_control

/CRITERIA=CI(.95).

****Grouped by GHQ12-4+****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=t1_HSE_demands t1_HSE_control INPUT=t1_GHQ_Outcome2

/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST GROUPS=t1_GHQ_Outcome2(1 2)

/MISSING=ANALYSIS

/VARIABLES=t1_HSE_demands t1_HSE_control

/CRITERIA=CI(.95).

****Look at Sickness absence****

****Correlation analysis, Demands, Control, Sickness, GHQ12 score, Non Work Score****

DATASET ACTIVATE DataSet1.

CORRELATIONS

/VARIABLES=t0_t1_sickness t1_HSE_demands t1_HSE_control t1_GHQ_CaseScore
t1_nonwork_CaseScore

/PRINT=TWOTAIL NOSIG

/MISSING=PAIRWISE.

****Indpt t-test sickness absence, grouped by GHQ12-4+****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=t0_t1_sickness INPUT=t1_GHQ_Outcome2

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST GROUPS=t1_GHQ_Outcome2(1 2)

/MISSING=ANALYSIS

/VARIABLES=t0_t1_sickness

/CRITERIA=CI(.95).

****Indpt t-test sickness absence, grouped by Non-work****

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

```

/VARIABLES TARGET=t0_t1_sickness INPUT=t1_nonwork_Outcome
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_nonwork_Outcome(1 2)
/MISSING=ANALYSIS
/VARIABLES=t0_t1_sickness
/CRITERIA=CI(.95).

```

****H5c****

****Indpt t-test grouped by sickness case****

****Demands****

```

DATASET ACTIVATE DataSet1.
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_HSE_demands INPUT=t1_sicknesscase
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_sicknesscase(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_HSE_demands
/CRITERIA=CI(.95).

```

****Control****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_HSE_control INPUT=t1_sicknesscase
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_sicknesscase(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_HSE_control
/CRITERIA=CI(.95).

```

****GHQ12****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore INPUT=t1_sicknesscase
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t1_sicknesscase(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_GHQ_CaseScore
/CRITERIA=CI(.95).

```

****Non-work score****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_nonwork_CaseScore INPUT=t1_sicknesscase
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.

```

```
T-TEST GROUPS=t1_sicknesscase(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_nonwork_CaseScore
/CRITERIA=CI(.95).
```

****Indpt t-test sickness absence grouped by intervention exposure****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t0_t1_sickness INPUT=t0t1_Intervention
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0t1_Intervention(1 2)
/MISSING=ANALYSIS
/VARIABLES=t0_t1_sickness
/CRITERIA=CI(.95).
```

****t0t1t2i data set**

****H2d pair sample t-test t0-t1 intervention awareness****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_GHQ_CaseScore t1_GHQ_CaseScore
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_GHQ_CaseScore WITH t1_GHQ_CaseScore (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.
```

****H2d pair sample t-test t1-t2 intervention awareness****

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t1_GHQ_CaseScore t2_GHQ_CaseScore
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t1_GHQ_CaseScore WITH t2_GHQ_CaseScore (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.
```

****H2d Inpt sample t-test t0 t1 t2 intervention awareness**

```
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t0_GHQ_CaseScore t1_GHQ_CaseScore t2_GHQ_CaseScore
INPUT=t0t1t2_sra_aware2
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0t1t2_sra_aware2(1 2)
/MISSING=ANALYSIS
/VARIABLES=t0_GHQ_CaseScore t1_GHQ_CaseScore t2_GHQ_CaseScore
/CRITERIA=CI(.95).
```

****H1e Mixed b w groups ANOVA t0-t1-t2 Demands by intervention awareness****

```
GLM t0_HSE_demands t1_HSE_demands t2_HSE_demands BY t0t1t2_sra_aware2
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0t1t2_sra_aware2)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0t1t2_sra_aware2.
```

****H1e Mixed b w groups ANOVA t0-t1 MgrSupport by intervention awareness****

```
GLM t0_HSE_mgrsupport t1_HSE_mgrsupport t2_HSE_mgrsupport BY t0t1t2_sra_aware2
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0t1t2_sra_aware2)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0t1t2_sra_aware2.
```

****H1e Mixed b w groups ANOVA t0-t1 PeerSupport by intervention awareness****

```
GLM t0_HSE_peersupport t1_HSE_peersupport t2_HSE_peersupport BY t0t1t2_sra_aware2
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0t1t2_sra_aware2)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0t1t2_sra_aware2.
```

****H1e Mixed b w groups ANOVA t0-t1 Role by intervention awareness****

```
GLM t0_HSE_role t1_HSE_role t2_HSE_role BY t0t1t2_sra_aware2
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0t1t2_sra_aware2)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0t1t2_sra_aware2.
```

****H1e Mixed b w groups ANOVA t0-t1 Change by intervention awareness****

```
GLM t0_HSE_change t1_HSE_change t2_HSE_change BY t0t1t2_sra_aware2
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0t1t2_sra_aware2)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
```

```

/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0t1t2_sra_aware2.

```

****H2e Mixed b w groups ANOVA t0-t1 GHQ12 by intervention awareness****

```

GLM t0_GHQ_CaseScore t1_GHQ_CaseScore t2_GHQ_CaseScore BY t0t1t2_sra_aware2
/WSFACTOR=Time 3 Polynomial
/METHOD=SSTYPE(3)
/PLOT=PROFILE(Time*t0t1t2_sra_aware2)
/PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
/CRITERIA=ALPHA(.05)
/WSDESIGN=Time
/DESIGN=t0t1t2_sra_aware2.

```

****H1d paired sample t-test t0-t1 intervention awareness****

```

DATASET ACTIVATE DataSet1.
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport
t0_HSE_peersupport t0_HSE_role
t0_HSE_change t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
t1_HSE_peersupport t1_HSE_role
t1_HSE_change
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport t0_HSE_peersupport
t0_HSE_role
t0_HSE_change WITH t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
t1_HSE_peersupport t1_HSE_role
t1_HSE_change (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.

```

****H1d paired sample t-test t1-t2 intervention awareness****

```

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES INPUT=t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
t1_HSE_peersupport t1_HSE_role
t1_HSE_change t2_HSE_demands t2_HSE_control t2_HSE_mgrsupport
t2_HSE_peersupport t2_HSE_role
t2_HSE_change
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST PAIRS=t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport t1_HSE_peersupport
t1_HSE_role
t1_HSE_change WITH t2_HSE_demands t2_HSE_control t2_HSE_mgrsupport
t2_HSE_peersupport t2_HSE_role
t2_HSE_change (PAIRED)
/CRITERIA=CI(.9500)
/MISSING=ANALYSIS.

```

****H1d indpt sample t-test at t0 intervention awareness****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport
t0_HSE_peersupport t0_HSE_role
t0_HSE_change INPUT=t0t1t2_sra_aware2
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0t1t2_sra_aware2(1 2)
/MISSING=ANALYSIS
/VARIABLES=t0_HSE_demands t0_HSE_control t0_HSE_mgrsupport
t0_HSE_peersupport t0_HSE_role
t0_HSE_change
/CRITERIA=CI(.95).
```

****H1d indpt sample t-test at t1 intervention awareness****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
t1_HSE_peersupport t1_HSE_role
t1_HSE_change INPUT=t0t1t2_sra_aware2
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0t1t2_sra_aware2(1 2)
/MISSING=ANALYSIS
/VARIABLES=t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
t1_HSE_peersupport t1_HSE_role
t1_HSE_change
/CRITERIA=CI(.95).
```

****H1d indpt sample t-test at t2 intervention awareness****

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t2_HSE_demands t2_HSE_control t2_HSE_mgrsupport
t2_HSE_peersupport t2_HSE_role
t2_HSE_change INPUT=t0t1t2_sra_aware2
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
T-TEST GROUPS=t0t1t2_sra_aware2(1 2)
/MISSING=ANALYSIS
/VARIABLES=t2_HSE_demands t2_HSE_control t2_HSE_mgrsupport
t2_HSE_peersupport t2_HSE_role
t2_HSE_change
/CRITERIA=CI(.95).
```

****Linear regression Mgrsupport on Control at t1****

REGRESSION

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
```



```

/NOORIGIN
/DEPENDENT t1_HSE_control
/METHOD=ENTER t1_HSE_mgrsupport
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****Linear regression Mgrsupport on PeerSupport at t1****

```

REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_HSE_peersupport
/METHOD=ENTER t1_HSE_mgrsupport
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****Linear regression Mgrsupport on Change at t1****

```

REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_HSE_change
/METHOD=ENTER t1_HSE_mgrsupport
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

****Linear regression Mgrsupport on GHQ12 at t1****

```

REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_HSE_mgrsupport
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED ADJPRED MAHAL COOK LEVER ZRESID DRESID SDRESID
SDBETA SDFIT COVRATIO.

```

**** Multiple Linear regression - Non Work, Demands, Control, MgrSupport - GHQ12****

```

DATASET ACTIVATE DataSet1.
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_nonwork_CaseScore
/METHOD=ENTER t1_HSE_demands t1_HSE_control t1_HSE_mgrsupport
/RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID).

```

****Final Regression Model****

```

DATASET ACTIVATE DataSet1.
BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=t1_GHQ_CaseScore INPUT= t1_nonwork_CaseScore
t1_HSE_demands t1_HSE_control
Role_2 Age
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT t1_GHQ_CaseScore
/METHOD=ENTER t1_nonwork_CaseScore
/METHOD=ENTER t1_HSE_demands
/METHOD=ENTER t1_HSE_control
/METHOD=ENTER Role_2
/METHOD=ENTER Age
/SCATTERPLOT=(*ZRESID,*ZPRED) (*SRESID,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2).

```

Appendix 15 – Index of Statistical Tests Performed

Table 0.10 Index of Statistical Tests Performed

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
1	H1a	1.1	Paired sample t-test between t0-t1 & t1-t2	t0t1t2	Int/Ctrl then CC/Coll	Demands
2	H1a	1.1	Paired sample t-test between t0-t1 & t1-t2	t0t1t2	Int/Ctrl then CC/Coll	Control
3	H1a	1.1	Paired sample t-test between t0-t1 & t1-t2	t0t1t2	Int/Ctrl then CC/Coll	MgrSupport
4	H1a	1.1	Paired sample t-test between t0-t1 & t1-t2	t0t1t2	Int/Ctrl then CC/Coll	PeerSupport
5	H1a	1.1	Paired sample t-test between t0-t1 & t1-t2	t0t1t2	Int/Ctrl then CC/Coll	Relationships
6	H1a	1.1	Paired sample t-test between t0-t1 & t1-t2	t0t1t2	Int/Ctrl then CC/Coll	Role
7	H1a	1.1	Paired sample t-test between t0-t1 & t1-t2	t0t1t2	Int/Ctrl then CC/Coll	Change
8	H1a	1.2	Paired sample t-test between t0-t1	t0t1X	Int/Ctrl then CC/Coll	Demands
9	H1a	1.2	Paired sample t-test between t0-t1	t0t1X	Int/Ctrl then CC/Coll	Control
10	H1a	1.2	Paired sample t-test between t0-t1	t0t1X	Int/Ctrl then CC/Coll	MgrSupport
11	H1a	1.2	Paired sample t-test between t0-t1	t0t1X	Int/Ctrl then CC/Coll	PeerSupport
12	H1a	1.2	Paired sample t-test between t0-t1	t0t1X	Int/Ctrl then CC/Coll	Relationships
13	H1a	1.2	Paired sample t-test between t0-t1	t0t1X	Int/Ctrl then CC/Coll	Role
14	H1a	1.2	Paired sample t-test between t0-t1	t0t1X	Int/Ctrl then CC/Coll	Change
15	H1a	1.2	Paired sample t-test between t1-t2	Xt1t2	Int/Ctrl then CC/Coll	Demands
16	H1a	1.2	Paired sample t-test between t1-t2	Xt1t2	Int/Ctrl then CC/Coll	Control
17	H1a	1.2	Paired sample t-test between t1-t2	Xt1t2	Int/Ctrl then CC/Coll	MgrSupport
18	H1a	1.2	Paired sample t-test between t1-t2	Xt1t2	Int/Ctrl then CC/Coll	PeerSupport
19	H1a	1.2	Paired sample t-test between t1-t2	Xt1t2	Int/Ctrl then CC/Coll	Relationships
20	H1a	1.2	Paired sample t-test between t1-t2	Xt1t2	Int/Ctrl then CC/Coll	Role

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
21	H1a	1.2	Paired sample t-test between t1-t2	Xt1t2	Int/Ctrl then CC/Coll	Change
22	H1ai	1.5	Paired sample t-test between t0-t1	t0t1X	Intervention Exposure	Demands
23	H1ai	1.5	Paired sample t-test between t0-t1	t0t1X	Intervention Exposure	Control
24a	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl	Demands
24b	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl	Control
24c	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl	MgrSupport
24d	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl	PeerSupport
24e	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl	Relationships
24f	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl	Role
24g	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl	Change
25a	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl then CC/Coll	Demands
25b	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl then CC/Coll	Control
25c	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl then CC/Coll	MgrSupport
25d	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl then CC/Coll	PeerSupport
25e	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl then CC/Coll	Relationships
25f	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl then CC/Coll	Role
25g	H1b	1.3	Independent sample t-test at t0	t0	Int/Ctrl then CC/Coll	Change
26a	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll	Demands
26b	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll	Control
26c	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll	MgrSupport
26d	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll	PeerSupport

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
26e	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll	Relationships
26f	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll	Role
26g	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll	Change
27a	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll then Int/Ctrl	Demands
27b	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll then Int/Ctrl	Control
27c	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll then Int/Ctrl	MgrSupport
27d	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll then Int/Ctrl	PeerSupport
27e	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll then Int/Ctrl	Relationships
27f	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll then Int/Ctrl	Role
27g	H1b	1.3	Independent sample t-test at t0	t0	CC/Coll then Int/Ctrl	Change
28a	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl	Demands
28b	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl	Control
28c	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl	MgrSupport
28d	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl	PeerSupport
28e	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl	Relationships
28f	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl	Role
28g	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl	Change
29a	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl then CC/Coll	Demands
29b	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl then CC/Coll	Control
29c	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl then CC/Coll	MgrSupport

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
29d	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl then CC/Coll	PeerSupport
29e	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl then CC/Coll	Relationships
29f	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl then CC/Coll	Role
29g	H1b	1.3	Independent sample t-test at t1	t1	Int/Ctrl then CC/Coll	Change
30a	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll	Demands
30b	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll	Control
30c	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll	MgrSupport
30d	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll	PeerSupport
30e	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll	Relationships
30f	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll	Role
30g	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll	Change
31a	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll then Int/Ctrl	Demands
31b	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll then Int/Ctrl	Control
31c	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll then Int/Ctrl	MgrSupport
31d	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll then Int/Ctrl	PeerSupport
31e	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll then Int/Ctrl	Relationships
31f	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll then Int/Ctrl	Role
31g	H1b	1.3	Independent sample t-test at t1	t1	CC/Coll then Int/Ctrl	Change
32a	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl	Demands
32b	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl	Control
32c	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl	MgrSupport

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
32d	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl	PeerSupport
32e	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl	Relationships
32f	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl	Role
32g	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl	Change
33a	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl then CC/Coll	Demands
33b	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl then CC/Coll	Control
33c	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl then CC/Coll	MgrSupport
33d	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl then CC/Coll	PeerSupport
33e	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl then CC/Coll	Relationships
33f	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl then CC/Coll	Role
33g	H1b	1.3	Independent sample t-test at t2	t2	Int/Ctrl then CC/Coll	Change
34a	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll	Demands
34b	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll	Control
34c	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll	MgrSupport
34d	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll	PeerSupport
34e	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll	Relationships
34f	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll	Role
34g	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll	Change
35a	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll then Int/Ctrl	Demands
35b	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll then Int/Ctrl	Control
35c	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll then Int/Ctrl	MgrSupport

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
35d	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll then Int/Ctrl	PeerSupport
35e	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll then Int/Ctrl	Relationships
35f	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll then Int/Ctrl	Role
35g	H1b	1.3	Independent sample t-test at t2	t2	CC/Coll then Int/Ctrl	Change
36a	H1bi/H4	1.6	Independent sample t-test at t1	t1	Non Work	Demands
36b	H1bi/H3	1.6	Independent sample t-test at t1	t1	Non Work	Control
36b	H1bi/H4	1.6	Independent sample t-test at t1	t1	Non Work	Control
37a	H1bi/H4	1.6	Independent sample t-test at t1	t1	GHQ12-4+	Demands
37b	H1bi/H4	1.6	Independent sample t-test at t1	t1	GHQ12-4+	Control
38	H1c	1.4	Mixed between-within groups ANOVA	t0t1t2	Collections	Demands
39	H1c	1.4	Mixed between-within groups ANOVA	t0t1t2	Collections	Control
40	H1c	1.4	Mixed between-within groups ANOVA	t0t1t2	Collections	MgrSupport
41	H1c	1.4	Mixed between-within groups ANOVA	t0t1t2	Collections	PeerSupport
42	H1c	1.4	Mixed between-within groups ANOVA	t0t1t2	Collections	Relationships
43	H1c	1.4	Mixed between-within groups ANOVA	t0t1t2	Collections	Role
44	H1c	1.4	Mixed between-within groups ANOVA	t0t1t2	Collections	Change
45	H2a	2.1	Paired sample t-test between t0-t1	t0t1t2	Int/Ctrl then CC/Coll	GHQ12
46	H2a	2.1	Paired sample t-test between t1-t2	t0t1t2	Int/Ctrl then CC/Coll	GHQ12
47	H2a	2.2	Paired sample t-test between t0-t1	t0t1X	Int/Ctrl then CC/Coll	GHQ12
48	H2a	2.2	Paired sample t-test between t1-t2	Xt1t2	Int/Ctrl then CC/Coll	GHQ12
49a	H2b/H4	2.3	Independent sample t-test at t0	t0	Int/Ctrl	Non Work score

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
49b	H2b	2.3	Independent sample t-test at t0	t0	Int/Ctrl	GHQ12
50a	H2b/H4	2.3	Independent sample t-test at t0	t0	Int/Ctrl then CC/Coll	Non Work score
50b	H2b	2.3	Independent sample t-test at t0	t0	Int/Ctrl then CC/Coll	GHQ12
51a	H2b/H4	2.3	Independent sample t-test at t0	t0	CC/Coll	Non Work score
51b	H2b	2.3	Independent sample t-test at t0	t0	CC/Coll	GHQ12
52a	H2b/H4	2.3	Independent sample t-test at t0	t0	CC/Coll then Int/Ctrl	Non Work score
52b	H2b	2.3	Independent sample t-test at t0	t0	CC/Coll then Int/Ctrl	GHQ12
53a	H2b/H4	2.3	Independent sample t-test at t1	t1	Int/Ctrl	Non Work score
53b	H2b	2.3	Independent sample t-test at t1	t1	Int/Ctrl	GHQ12
54a	H2b/H4	2.3	Independent sample t-test at t1	t1	Int/Ctrl then CC/Coll	Non Work score
54b	H2b	2.3	Independent sample t-test at t1	t1	Int/Ctrl then CC/Coll	GHQ12
55a	H2b/H4	2.3	Independent sample t-test at t1	t1	CC/Coll	Non Work score
55b	H2b	2.3	Independent sample t-test at t1	t1	CC/Coll	GHQ12
56a	H2b/H4	2.3	Independent sample t-test at t1	t1	CC/Coll then Int/Ctrl	Non Work score
56b	H2b	2.3	Independent sample t-test at t1	t1	CC/Coll then Int/Ctrl	GHQ12
57a	H2b/H4	2.3	Independent sample t-test at t2	t2	Int/Ctrl	Non Work score
57b	H2b	2.3	Independent sample t-test at t2	t2	Int/Ctrl	GHQ12
58a	H2b/H4	2.3	Independent sample t-test at t2	t2	Int/Ctrl then CC/Coll	Non Work score
58b	H2b	2.3	Independent sample t-test at t2	t2	Int/Ctrl then CC/Coll	GHQ12
59a	H2b/H4	2.3	Independent sample t-test at t2	t2	CC/Coll	Non Work score
59b	H2b	2.3	Independent sample t-test at t2	t2	CC/Coll	GHQ12

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
60a	H2b/H4	2.3	Independent sample t-test at t2	t2	CC/Coll then Int/Ctrl	Non Work score
60b	H2b	2.3	Independent sample t-test at t2	t2	CC/Coll then Int/Ctrl	GHQ12
61	H2c	2.4	Mixed between-within groups ANOVA	t0t1t2	Collections	GHQ12
62	H4a	3.1	Independent sample t-test at t0	t0	Non Work	GHQ12
63	H4a	3.1	Independent sample t-test at t1	t1	Non Work	GHQ12
64	H4a	3.1	Independent sample t-test at t2	t2	Non Work	GHQ12
65	H1/H2	4.0	Multiple linear regression	t1	All	(1) Studygroup (2) Demands, Control. (3) MgrSupport, PeerSupport, Role, Change. (D) GHQ12
66	H3	4.1	Multiple linear regression	t1	All	(1) Dept. (2) Demands, Control
67	H3	4.2	Multiple linear regression	t1	All	(1) Intervention exposure (2) Demands, Control
68	H3/H4	3.2	Multiple linear regression	t1	All	(1) Non Work case (2) Demands, Control
69	H3/H4	3.3	Multiple linear regression	t1	All	(1) Non Work score (2) Demands, Control
70	H3	4.3	Multiple linear regression	t1	All	(1) Job role (2) Demands, Control
71	H3	4.4	Multiple linear regression	t1	Collections	(1) Job role (2) Demands, Control
73	H3	4.5	Multiple linear regression	t1	Contact Centre	(1) Job role (2) Demands, Control
74	H3	4.6	Multiple linear regression	t1	All	(1) FTE (2) Demands, Control
75	H3	4.7	Multiple linear regression	t1	All	(1) Gender (2) Demands, Control
76	H3	4.8	Multiple linear regression	t1	All	(1) Age (2) Demands, Control
77	H3	3.4	Multiple linear regression	t1	Collections	(1) Non Work score (2) Demands, Control
77	H4/H3	3.4	Multiple linear regression	t1	Collections	(1) Non Work score (2) Demands, Control

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
78	H3	3.5	Multiple linear regression	t1	Contact Centre	(1) Non Work score (2) Demands, Control
87a	H1d	1.8	Paired sample t-test between t0-t1	t0t1t2_i	Intervention Exposure	Demands
87b	H1d	1.8	Paired sample t-test between t0-t1	t0t1t2_i	Intervention Exposure	Control
87c	H1d	1.8	Paired sample t-test between t0-t1	t0t1t2_i	Intervention Exposure	MgrSupport
87d	H1d	1.8	Paired sample t-test between t0-t1	t0t1t2_i	Intervention Exposure	PeerSupport
87e	H1d	1.8	Paired sample t-test between t0-t1	t0t1t2_i	Intervention Exposure	Role
87f	H1d	1.8	Paired sample t-test between t0-t1	t0t1t2_i	Intervention Exposure	Change
88a	H1d	1.8	Paired sample t-test between t1-t2	t0t1t2_i	Intervention Exposure	Demands
88b	H1d	1.8	Paired sample t-test between t1-t2	t0t1t2_i	Intervention Exposure	Control
88c	H1d	1.8	Paired sample t-test between t1-t2	t0t1t2_i	Intervention Exposure	MgrSupport
88d	H1d	1.8	Paired sample t-test between t1-t2	t0t1t2_i	Intervention Exposure	PeerSupport
88e	H1d	1.8	Paired sample t-test between t1-t2	t0t1t2_i	Intervention Exposure	Role
88f	H1d	1.8	Paired sample t-test between t1-t2	t0t1t2_i	Intervention Exposure	Change
89a	H1d	1.9	Independent sample t-test at t0	t0t1t2_i	Intervention Exposure	Demands
89b	H1d	1.9	Independent sample t-test at t0	t0t1t2_i	Intervention Exposure	Control
89c	H1d	1.9	Independent sample t-test at t0	t0t1t2_i	Intervention Exposure	MgrSupport
89d	H1d	1.9	Independent sample t-test at t0	t0t1t2_i	Intervention Exposure	PeerSupport
89e	H1d	1.9	Independent sample t-test at t0	t0t1t2_i	Intervention Exposure	Role
89f	H1d	1.9	Independent sample t-test at t0	t0t1t2_i	Intervention Exposure	Change
90a	H1d	1.9	Independent sample t-test at t1	t0t1t2_i	Intervention Exposure	Demands
90b	H1d	1.9	Independent sample t-test at t1	t0t1t2_i	Intervention Exposure	Control

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
90c	H1d	1.9	Independent sample t-test at t1	t0t1t2_i	Intervention Exposure	MgrSupport
90c	H1d	1.9	Independent sample t-test at t1	t0t1t2_i	Intervention Exposure	MgrSupport
90d	H1d	1.9	Independent sample t-test at t1	t0t1t2_i	Intervention Exposure	PeerSupport
90e	H1d	1.9	Independent sample t-test at t1	t0t1t2_i	Intervention Exposure	Role
90f	H1d	1.9	Independent sample t-test at t1	t0t1t2_i	Intervention Exposure	Change
91a	H1d	1.9	Independent sample t-test at t2	t0t1t2_i	Intervention Exposure	Demands
91b	H1d	1.9	Independent sample t-test at t2	t0t1t2_i	Intervention Exposure	Control
91c	H1d	1.9	Independent sample t-test at t2	t0t1t2_i	Intervention Exposure	MgrSupport
91d	H1d	1.9	Independent sample t-test at t2	t0t1t2_i	Intervention Exposure	PeerSupport
91e	H1d	1.9	Independent sample t-test at t2	t0t1t2_i	Intervention Exposure	Role
91f	H1d	1.9	Independent sample t-test at t2	t0t1t2_i	Intervention Exposure	Change
92	H2d	2.5	Paired sample t-test between t0-t1	t0t1t2_i	Intervention Exposure	GHQ12
93	H2d	2.5	Paired sample t-test between t1-t2	t0t1t2_i	Intervention Exposure	GHQ12
94a	H2d	2.6	Independent sample t-test at t0	t0t1t2_i	Intervention Exposure	GHQ12
94b	H2d	2.6	Independent sample t-test at t1	t0t1t2_i	Intervention Exposure	GHQ12
94c	H2d	2.6	Independent sample t-test at t2	t0t1t2_i	Intervention Exposure	GHQ12
97	H1e	1.10	Mixed between-within groups ANOVA	t0t1t2_i	Intervention Exposure	Demands
98	H1e	1.10	Mixed between-within groups ANOVA	t0t1t2_i	Intervention Exposure	Control
99	H1e	1.10	Mixed between-within groups ANOVA	t0t1t2_i	Intervention Exposure	MgrSupport
100	H1e	1.10	Mixed between-within groups ANOVA	t0t1t2_i	Intervention Exposure	PeerSupport
101	H1e	1.10	Mixed between-within groups ANOVA	t0t1t2_i	Intervention Exposure	Role

No.	Test Group	Table ID	Type	Data Set	Grouped by	Variable(s)
102	H1e	1.10	Mixed between-within groups ANOVA	t0t1t2_i	Intervention Exposure	Change
102	H1e	1.10	Mixed between-within groups ANOVA	t0t1t2_i	Intervention Exposure	Change
103	H2e	2.7	Mixed between-within groups ANOVA	t0t1t2_i	Intervention Exposure	GHQ12
104	H1f	1.11	Linear regression	t0t1t2_i	All	(1) MgrSupport (D) Control
105	H1f	1.11	Linear regression	t0t1t2_i	All	(1) Mgrsupport (D) PeerSupport
106	H1f	1.11	Linear regression	t0t1t2_i	All	(1) MgrSupport (D) Change
108	Model		Linear regression	t1	All	(1) Non work (2) Demands (3) Control (4) Job type (5) Age (D) GHQ12
109	Model	7.1	Linear regression	t1	Contact Centre	(1) Non work (2) Demands (3) Control (4) Job type (5) Age (D) GHQ12
110	Model	7.2	Linear regression	t1	Collections	(1) Non work (2) Demands (3) Control (4) Job type (5) Age (D) GHQ12

Appendix 16 – Sample Coded Focus Group Transcript

1. Introduction, best and worst things about working here

Emily
I'm Emily I work in collections, been here 16 years, the best thing about working here is people I work with. The worst thing, oh gosh, I don't know, [pause]. I guess it can be quite stressful what we do sometimes.

Adele
Hi I'm Adele, I work in the contact centre upstairs. People again, my team's fantastic. Worst thing, handling time, pressure from that more than anything.

Interviewer
Sure, and we'll talk a bit about that as you'd imagine.

Adele
That's the worst bit for me.

Interviewer
OK thanks.

Jeremy
I'm Jeremy I work on debt action in collections. Again probably people. Worst bit, having to do other department's work.

Emily
That's a good one.

Interviewer
Is that team Service Zone?

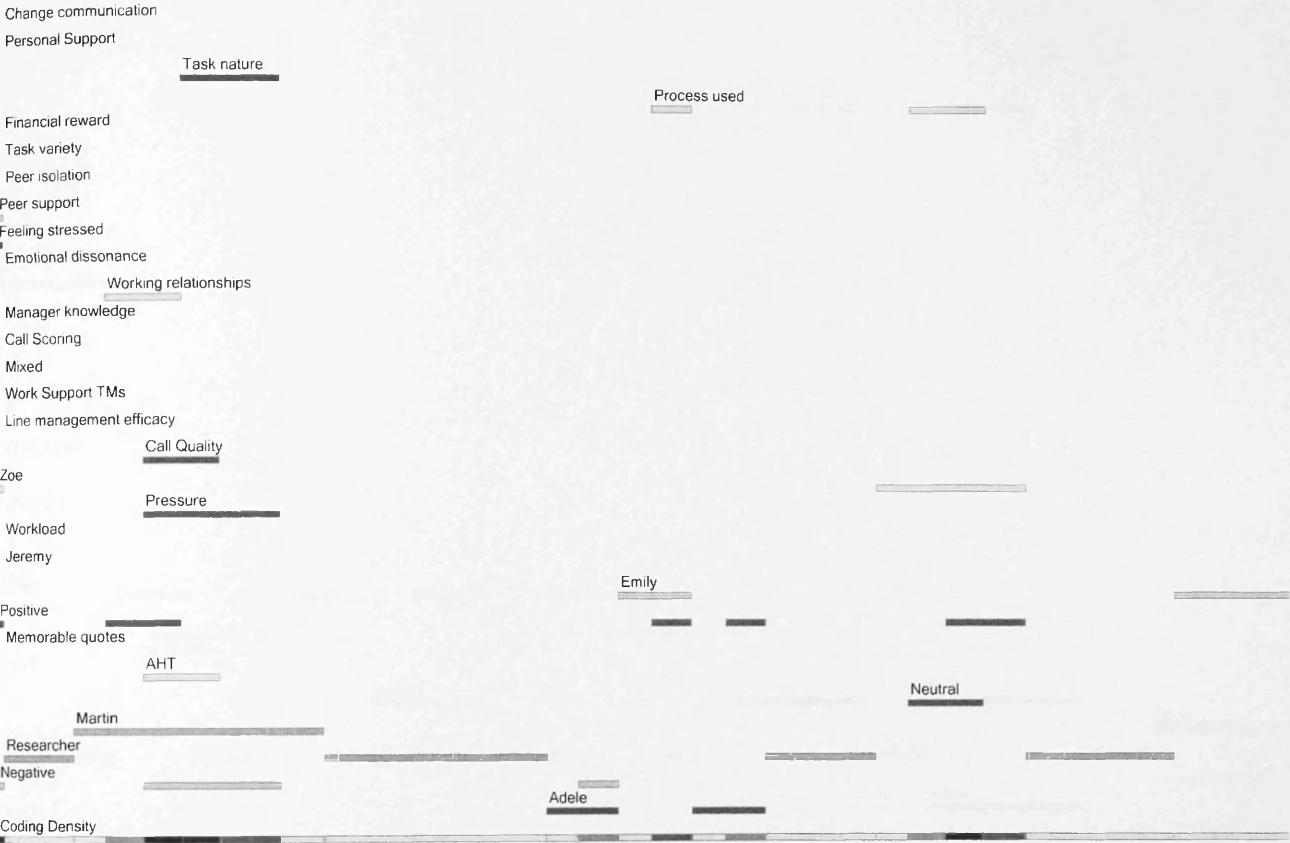
Jeremy
Yeah

Emily
Yeah

Interviewer
OK well again that's something I'm sure we'll talk a bit about as well. Particularly after this summer where work was particularly busy for a time.

Zoe
I'm Zoe I've been here just over a year now. And again, just the same as everyone else, the people I work with they make it easier. And it's just maybe when you've got a hard call, you know customers are stressing you out and things like that, maybe when they're swearing or difficult, people are there to support you. So that's one of worst things but then you've got people's backing.





Interviewer
Great, ok thanks.

Martin
I'm Martin, I've been here 10 years, same again like rest of them, the people are probably the best aspect and then probably the bad points are you're under pressure, take all the calls and hitting certain targets where sometimes you want to spend more quality time with the customer. You just feel as though you're rushed a lot of the time to get your sort of tick boxes

2. Stress Risk Assessment process

Interviewer
Sure, and you 2 both work in the contact centre and the 3 of you are in collections, so there will be a different part of the job that are challenging for either area I suppose. To start off with I just want to start off talking about the stress risk assessment and that conversation the manager hopefully had with you perhaps earlier in the year. Is that familiar, is it ringing a bell with you around, you're shaking your head Adele...

Adele
Not really I don't think I remember it.

Emily
Them questionnaires, we did them in team meetings.

Adele
Ah yes yes.

Interviewer
Looking at different causes of stress and what might be done about it. So Zoe you smiled so that's a good sign, can you remember how that was handled?

Zoe
I just remember being sat in a group, I can't remember what the actual topic was, I think everyone had a different one didn't they. Yeah I remember everybody just getting involved and talking about it. But I can't remember...

Interviewer
But your manager, no the content is fine, what I'm interested in is the process. So, your manager split you into groups and gave you each one of the different areas, because it has six areas does the form.

Emily
That's not how we did it.



Interviewer
No no, we present it as a framework so managers can find a way to do it themselves is I am interested in how it was done differently. How was yours done then Emily?

Emily
We did it as a whole team, the manager did each section and we all discussed each section.

Interviewer
Excellent.

Emily
As a full team.

Interviewer
Can you remember how long that took about?

Emily
We did it in a few meetings so...

Interviewer
Yeah, yeah. So over a period of time it was developed.

Emily
Mmmm

Interviewer
You did it in one?

Zoe
Yeah, I think it might, I don't know, we did it in team meeting but a different section in each meeting but I don't know if I missed a couple of something, that's maybe why I only thought it were one section.

Interviewer
Adele, do you, is that...

Adele
I can remember coming and getting split into 1,2,3,4 and getting taking out but I also remember us sitting out here in a team meeting with our manager going through stressful things and that was just one meeting we had for about an hour.

Interviewer
Sure, is that...

Martin
I can't remember, whatsoever to be honest. [laughter]

Change communication
Personal Support
Task nature

Process used

Financial reward
Task variety
Peer isolation
Peer support
Feeling stressed
Emotional dissonance
Working relationships
Manager knowledge
Call Scoring
Mixed
Work Support TMs
Line management efficacy
Call Quality
Zoe
Pressure
Workload
Jeremy

Emily

Memorable quotes

Positive

Neutral

AHT

Martin
Researcher
Negative
Adele
Coding Density

Interviewer:

That's fine, absolutely fine [laughter] it might have been done as long ago as a year, it might have been done sooner. We delivered the training at the beginning of the year so managers will have been rolling it out over a period of time and some will have gone back and reviewed it as well. Everybody will have done it differently, that's why I'm asking the question because I don't know.

Jeremy?

Jeremy

We just did ours in a meeting, as part of a team meeting, it maybe last half an hour or something, just talked about it.

Interviewer:

Sure. Did you feel involved? Did it feel like you view mattered when you filled it in, or when you went through it?

Emily

It's quite hard filling these forms in on a short space of time when you haven't got time to think, even that were pressured.

Martin

I think because you're doing so many, they'll sort of say can't you do this survey, that survey you're so bombarded with so many you just sort of think what does actually happen at the end of the day from it. You know I just sort of a lot of times just tick tick and then you don't hear nowt do you?

Interviewer:

Sure. So Emily you did it over number of meetings, so did you feel like it was identifying issues that were important to you and your colleagues?

Emily:

It just identified issues that they knew were already there to be honest, you know but, to be fair I think it's something they're working on certainly with these buzz sessions and stuff that we have now.

Interviewer:

Is that a new invention?

Emily

Yeah last few months.

Martin

Yeah I think they're trying to get more people involved because they know morale can be so low at this moment in time don't they. So they're trying to perk everyone up. Because you're just bombarded with call after call after call. You're expected to do so much and you just feel so

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Process used
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Line management efficacy

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Neutral

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Researcher

Negative

Adele

Coding Density

pressurised and then come the end of quarter people don't get the achievements. You just feel as though you've done all that and then at end of the day I'm not getting anything for it. You know you just feel as though...

3. Involvement and participation

Interviewer

When you said getting people involved, what's that actually mean in terms of how you are having a say in how you do your work then?

Martin

Well you basically have this happy medium with your team manager where a lot of people on sort of managed targets and stuff like that, to help you achieve your targets so they'll help you in that respect, and sort of like, you know, the level 1, level 2, level 3, a lot of people said that they weren't attainable didn't they?

Emily

Mmmm

Martin

So it's a case of just putting people on sort of like targets where gradually, gradually you'll hopefully hit that target at some stage.

Interviewer

Are you seeing that Adele, more attempt to get you involved?

Adele

What, these meetings and what's happening more around ServiceZone?

Interviewer

Yes, I suppose, I'm just interested to know how in the jobs that you do you're given an opportunity to have a say in how your work, whether that happens or not.

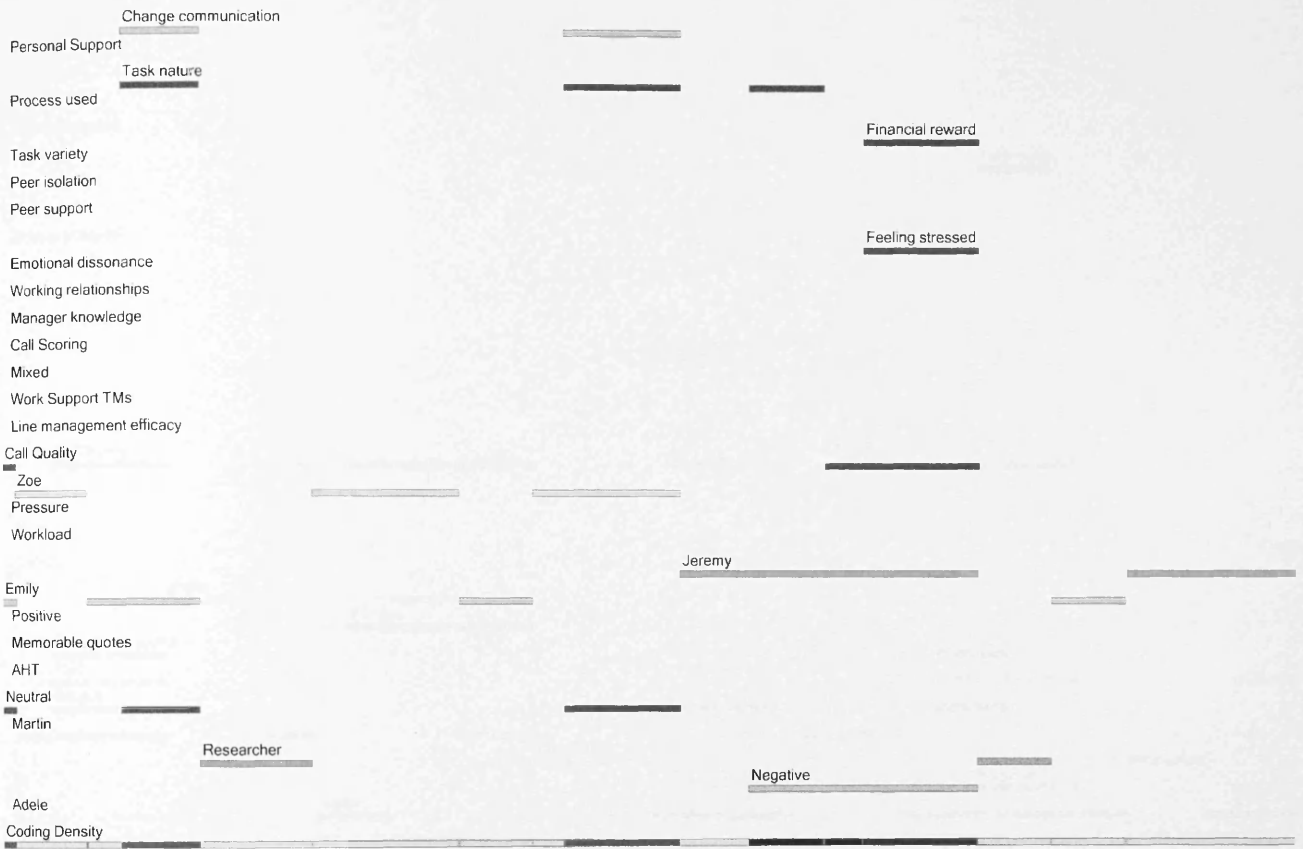
Adele

Well, you have your meetings with your manager and they're telling you what to achieve and stuff, but if you can't achieve it and you can't hit that target.

4. Work pressure

Emily

I don't know about upstairs but for us Zoe will probably effect more than Jeremy and I but one minute you're asking this on the phone call then you're not asking for that, we'll mark you down on your quality if don't get this in it. And that's all well if you don't hit your quality you don't get your quality bonus. You know that's quite frustrating actually. One minute you're...



Zoe
You're asking for date of birth...

Emily
You're asking for date of birth then you're not, or, you're asking for the money and then you're not asking for the money.

Interviewer
And does those come out of suggestions that you've made, somebody will say I think we should do this differently, or...

Zoe
It's come from upstairs, I think because they're on about changing where you guys do things upstairs, they communicated to us that we would do the same thing so we got into the pattern of not asking the things...

Emily
It's just changed though hasn't it.

Zoe
Yeah, but, when you start not asking for it and then 'oh no you do need to ask for it' and it's like they expect it to flip straight away but you get into a pattern of doing something it's there then and it's embedded where if you try and go back it's sometimes a little bit more difficult.

Jeremy
Just with regards to what you were on about asking questions and then not asking questions, when you say it comes from upstairs, it all gets run through the contact centre and then we get told to work around how they've designed for the contact centre which is frustrating for us in collection cos we have no input into the way of doing things. So we're having to try and mould our way around what is being done for the contact centre which is not always the best way for us. I can see how people get stressed out by it if they're not achieving already and it is sometimes difficult to try and mould into the way something's been designed for the way someone else works.

Interviewer
Sure, without having had an input to...

Emily
Yeah

Jeremy
Yeah

Change communication
 Personal Support
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 Process used
 Financial reward

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 Peer support
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 Working relationships
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 Work Support TMs
 Line management efficacy

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Zoe

Pressure

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Memorable quotes

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Researcher

Negative

Adele

Coding Density



Martin
 Yeah cos they're trying to keep everything to a minimum but then they're actually saying to you
 'well we want to make the customer satisfied' but to make the customer satisfied you want to
 spend time with them.

Emily
 Yeah.

Martin
 So it's just a case of you're between the devil and the deep blue sea.

Adele
 I feel it should be quality over quantity.

Emily
 I agree.

Martin
 Yeah I agree.

Interviewer
 In terms of Average Handling time versus Call Quality?

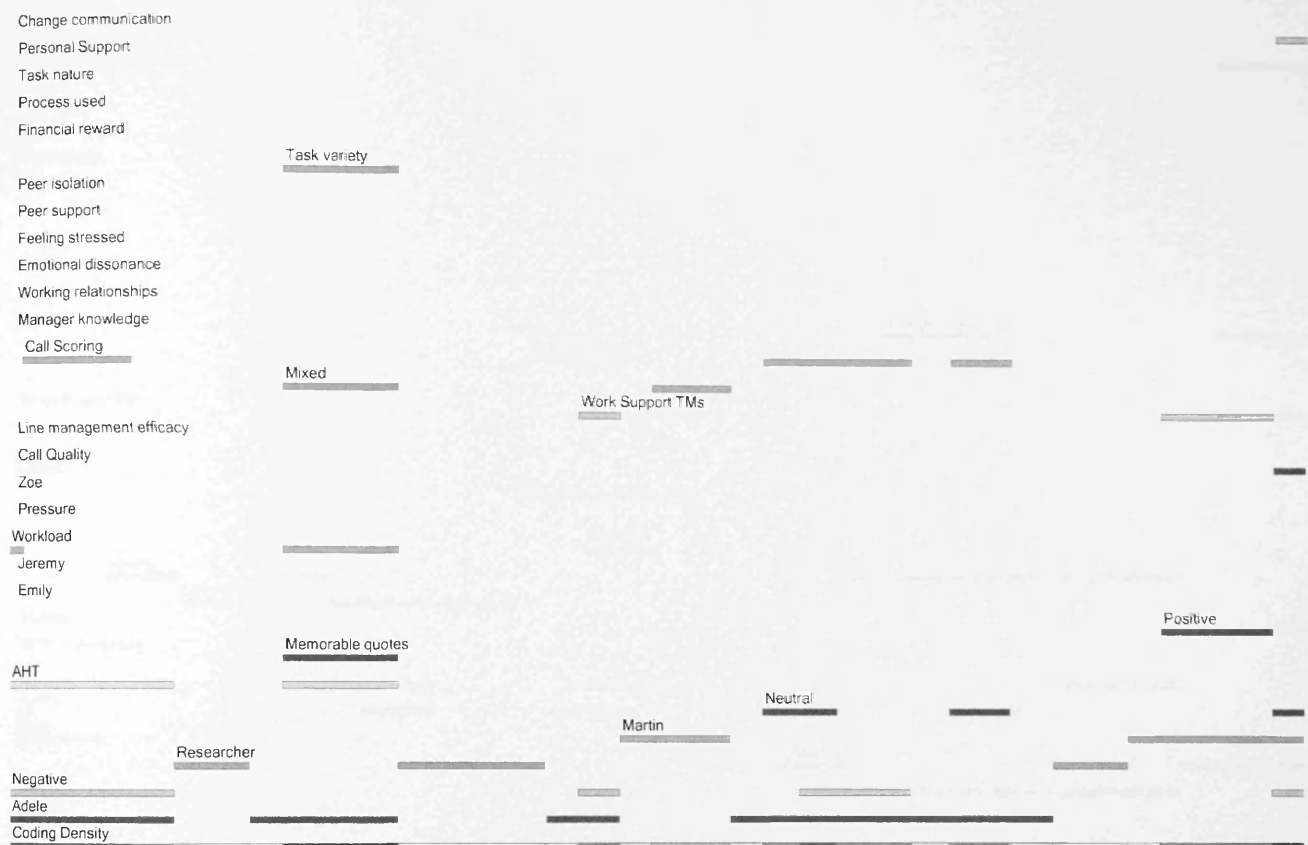
Adele
 They can see in the wrap time whether you're messing about you know if you're wrap's really high
 you're obviously messing about between calls. If you're talking to a customer for any length of time
 you dealing with that customer to the best of your ability which is what I think counts more than
 anything.

Martin
 And then you're not getting them ringing back are you? If you know you've achieved everything
 right first time.

Adele
 You've done everything right but then you're handling time's horrendous because you've been
 talking a long time. Depends on what calls you get but you can have days where it's all ops calls and
 things take a long time or high consumption, and they're banging at you to get your handling time
 down. 'I've got my wrap down and been really good but I've been talking to the customer!' And that
 to me it's wrong.

Interviewer
 Do you mean average handling time or the way that it's implemented?

Adele
 The way it's implemented, they take it as an overall figure but you're wrap's low, which mine is,
 obviously dealing with a call, call after call after call, in between that I'm doing what I have to do



with the wrap notes but obviously if I've been talking for a long time they don't say 'oh you've been talking a long time but your wraps really low so you've been dealing with that customer while you've been on the phone, you've not messed about after'. But it's all as one lump figure and then it just looks like you're whole stats are high for the day. That's what gets me.

Interviewer

Sure, but that might be because of the type of call you've got rather ...

Adele

Because of the calls you get and it shouldn't matter, people can come on the phone and, they've got their change of address, a meter, and they can say 'oh there's a leak outside'. That's dealt as one call. And really it's 3 calls in one.

Interviewer

Yeah, ok. And what role does your manager have in this? I'm including you all in this, when you're under pressure to meet objectives whether it's in collections or in, how does your manager get involved in supporting you in that?

Adele

They don't, they don't really, just try and talk less.

Martin

They'll say ways and means to keep your calls to a minimum, and I'm like 'how, if a customer's asking this that and the other'. What are you supposed to do, just cut them off?

Adele

When they listen to that call, when pick up on that call 'you didn't need to say that you could have said this'. You're actually on the call to a customer, you deal with as you think fit. You haven't got half an hour to analyse it like they have. No, they can analyse it for as long as they want and say 'well you could have shortened that call by this, that or the other'. As you're on the call to the customer you're actually dealing with them there and then. And, you know, you're dealing with it to the best of your ability. In hindsight you could say all sorts couldn't you.

5. Manager support

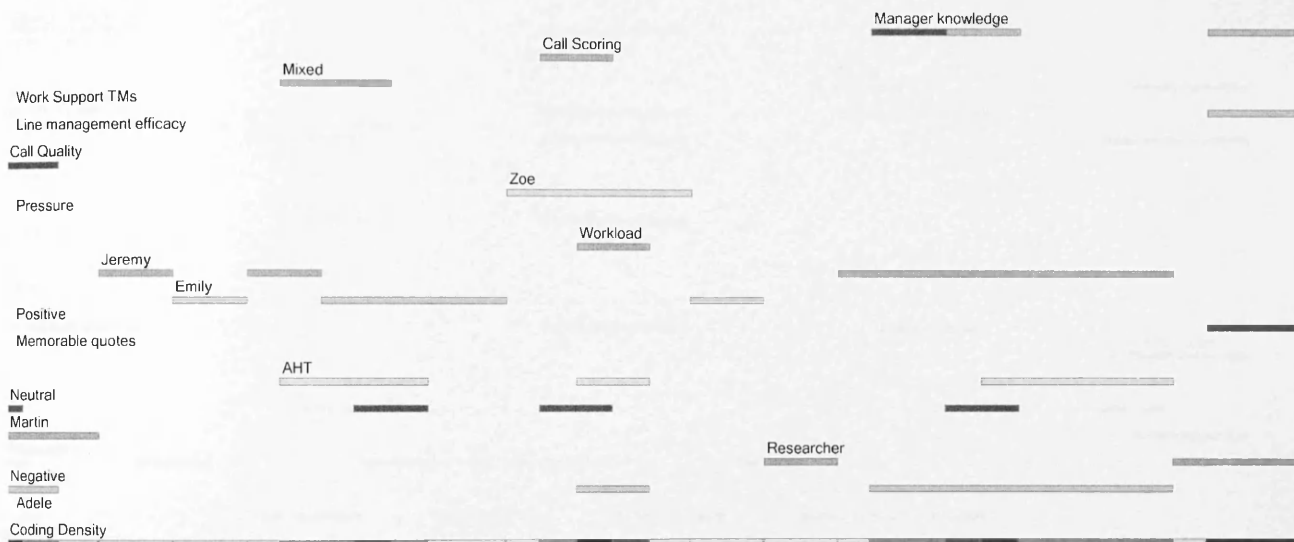
Interviewer

OK does the manager get involved in helping you find solutions to those situations?

Martin

Yeah they look at every means possible when the analyse it they say 'well you could have done this in half the time' and it's like 'well, I thought you want to make customer's fans of the business' basically giving them that good service. Like, give me a happy medium you know where I will take this out, but as we've said they keep changing it. And you just sometimes feel that they're moving

Change communication
Personal Support
Task nature
Process used
Financial reward
Task variety
Peer isolation
Peer support
Feeling stressed
Emotional dissonance
Working relationships



the goalposts further and further. Cos aren't you guys in collections haven't you got free time where you can spend it with customers?

Jeremy

Yeah well...

Emily

Not on calls...

Jeremy

We don't really get average handling time as such, I've never...

Emily

Yeah we do, it would affect our stats in that if we do an inbound call we get an allowance of 6 minutes on our stats so whether it's a 30 minute call or 2 minute call we get 6 minutes for it, so it's swings and roundabouts for that really, but no we don't, I think for you guys on the phone teams you do don't you, have your times looked at.

Zoe

It's 6 minutes on us productivity and stuff, obviously the longer your calls the longer your productivity is, but the more work you do in between you don't get chance to do work in between because you've got calls and you've got pop ups going 'there's 5 calls waiting' well everyone's on a call...

Emily

Yeah they're instant messages

Interviewer

Do you think your manager understands the bits of your work that put you under pressure?

Jeremy

No, I think to managers everything's just numbers, it's so many of this, so many of that, so many phone calls, it's just a number, they don't, cos they've not, maybe, I don't know what it's like upstairs the managers whether they've progress through the business but a lot of the managers in our area won't have done the work so they don't have the concept of what needs to be done. It's just a number, so it's 4 of this, or there's 10 calls queueing, not everyone of those things takes the set amount of time, or how in depth you need to go into it or you don't need to go into it. And I know they say well one thing might only take you 2 minutes but you get 6 minutes for it. But you know it's not just that.

Interviewer

What about you Zoe? Do you feel your manager understands the bits of the job that put you under pressure?

Zoe

Yeah I suppose so, she's there if I need any help or anything and if I've got any issues or anything I can go to her and, you know, sort out whatever the issue is but, I don't know...

Interviewer

Sure. What about in the contact centre?

Adele

Well my manager sits across from me and probably bombarded with questions all the time [laughs] with bits of stuff, and she's helpful and she's lovely. I mean they've got pressure on their backs from the people above them so any pressure they give us is coming from higher up.

Interviewer

Sure, are you full time?

Adele

Part-time, I work 5 hours per day.

Interviewer

Ok. So when she's answering those questions then how does that make you feel in terms of helping you cope with the pressure of your work?

Adele

Oh a lot better, a lot better, because sometimes if you try and ring floor up it's, you can't get through to them.

Interviewer

That's the floor walker?

Adele

Yes the floor walker. If I need help and I literally can't get through I ask her and she'll help me cos it's frustrating when you're trying to get floor and they're not available and you've got the customer on the phone and again, handling time, you're like I can't get to speak to anybody here but the manager does help, does help.

Interviewer

Right, thank you. Do you feel like that?

Martin

Yeah I feel some managers are people's people persons and they'll back you to the hilt, whereas other managers can be just blinkered and all for the company. I just think sort of what they've learned they just see the business sides, they just see black or white. Whereas if you've got a manager what's back you to the hilt it's fantastic.

Interviewer

And have you had a mixture of both?

Change communication
Personal Support
Task nature
Process used
Financial reward
Task variety
Peer isolation

Feeling stressed
Emotional dissonance
Working relationships
Manager knowledge
Call Scoring

Work Support TMs

Call Quality
Zoe

Workload
Jeremy
Emily
Positive

Researcher
Negative

Coding Density

Peer support

Mixed

Line management efficacy

Pressure

Neutral

AHT

Memorable quotes

Martin

Adele

Change communication
Personal Support
Task nature
Process used
Financial reward
Task variety
Peer isolation
Peer support
Feeling stressed
Emotional dissonance



Martin
Yeah yeah. It's just a case of you go from one to another because you change teams on a regular basis so you see the flipside of the coin, which I've seen it. I just think, well we're all in this together so what's your problem? It's a case of, you know you just can't understand some people.

Interviewer
What about your manager Emily?

Emily
Well my manager was replaced in, when was it Jeremy? January or February time as I came back from maternity leave, and to be quite honest she were a cow initially, and quite honestly sat at my desk and cried because of what she's been like, asked if I could have me old job back and were ready to leave because of her. So...

Interviewer
The way she managed the team?

Emily
No, the way she spoke to me and picked on me.

Interviewer
So she wasn't the people manager that Martin was talking about?

Emily
No, for example I can't do something all the rest of the team are allowed to do, you know just silly things but silly things that matter. So I had to take that further. But in fairness since I did take it further she couldn't have been any nicer. You know, so, but yeah I don't know who my manager's going to be. She's only on secondment so I don't know who I'm going to get or whether I'm going to get split on to another team or what's going to happen.

6. Relationship with manager

Interviewer
Sure, if you could design the perfect manager for this environment, what features would they have?

Adele
Is this a team manager?
Interviewer
Yes, so your team manager.



Adele
We have team managers, they get bollocked from the people above them don't they? So is it our team managers that are the problem, or the managers above them that are forcing them to be keen on us?

Interviewer
It's a good point, what do you think the answer is?

Adele
I think it's the managers above.

Jeremy
It comes all the way though doesn't it. Right from the very top.

Adele
So is it the top manager that's putting these pressures on managers to, you know whoever decides on what achievements we have to do it's coming from the top down isn't it.

Jeremy
I mean it's understandable...

Adele
Well they've got to have some rules haven't they?

Jeremy
It's like people at the very top it's their job on the line if things aren't met. You know, so I can understand why there is that stress and pressure and it filters down but I also think you've got to understand as well that there are people down there, us, that have to do the job and deal with this pressure as well as them. I know the job securities probably difference but it's still pressure isn't it.

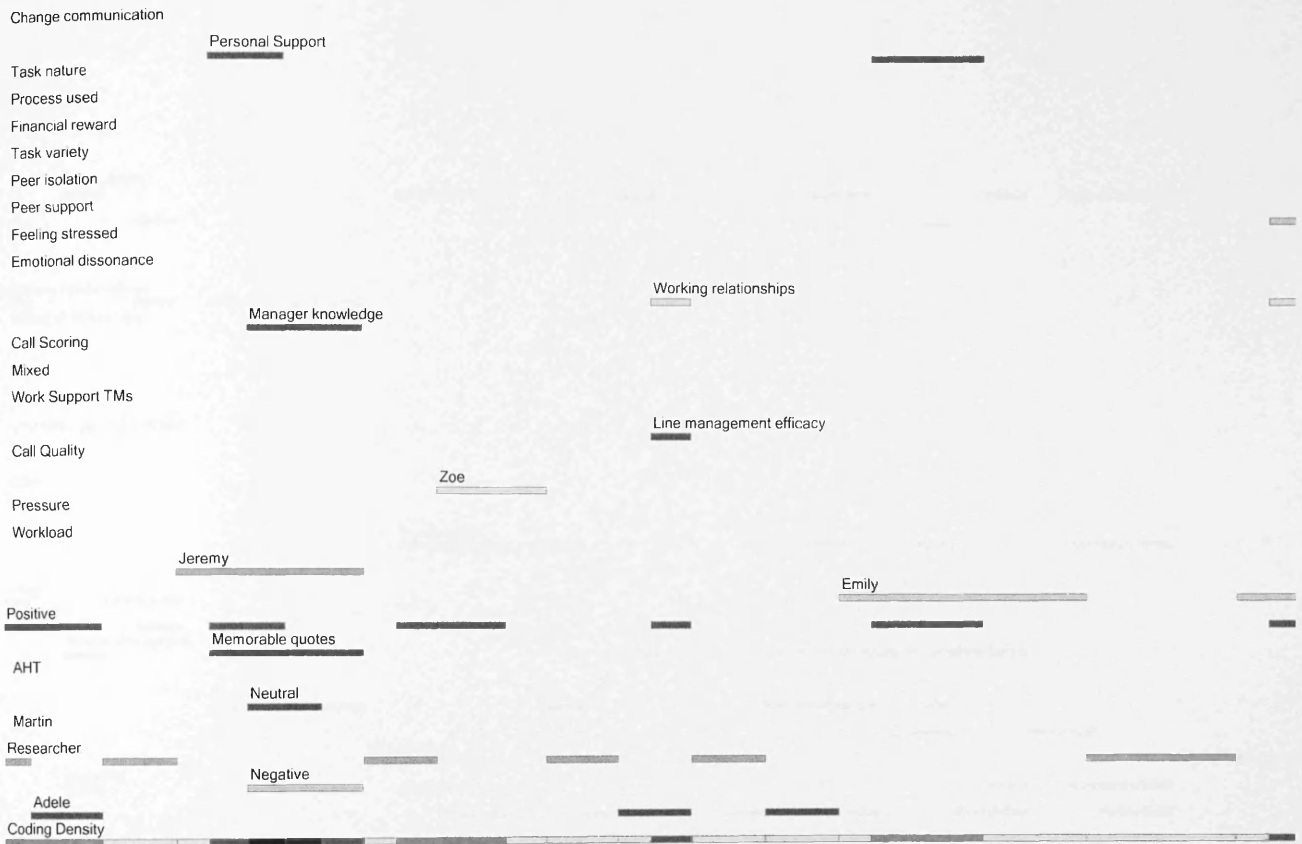
Emily
Personally I just want a manager that firm maybe, but fair. You know I just want to be spoke to like...

Zoe
A human being.

Emily
I would speak to someone, that's what I would ask for in a manager. And we all understand that the work's got to be done.

Jeremy
My manager is good, but there are some things that aren't good with him. But work related, he's alright. But again it is a numbers thing, it's not the actual work itself, there's still work on figure but he's alright. He's not very, the most approachable person.

Interviewer
And if you needed to approach them with a problem would find your managers are willing to talk?



Adele
Yeah

Interviewer
It might not necessarily be a work issue but are they...

Jeremy
Personal issues my manager is better with than work issues with I'd say. So if you've got anything, he'll go off and speak with you or anything like that. With work issues, probably part of it is not knowing the job as much as well which might be why not approachable on work issues as much as maybe, we probably know more than they do with regards to the day to day work.

Interviewer
What about you Zoe is your manager approachable?

Zoe
Oh yeah definitely, like Emily we're getting a new manager so only time will tell I suppose as to what they're like so.

Interviewer
In the contact centre, you've got supportive managers?

Adele
My manager's lovely.

Interviewer
So if you felt there was an issue you...

Adele
I would not want any problems going on.

Emily
Even with the problems I've had with my manager in the past I can honestly say I have had to see her in the past few weeks over other personal and work things and she couldn't have been any nicer. She's been really good actually. At least whatever's happened in the past we've got past it and, yeah...

7. Relationship with peers

Interviewer
OK, I'm going to finish by talking about the team, because when I asked you at the beginning what you most liked about the place, most of you were saying it's the people that you work with. So how does the relationships with the people you work with help you cope with the work you do as well?

Emily
Well we have a bit of a laugh, don't we, you know...

Change communication
Personal Support
Task nature
Process used
Financial reward
Task variety



Adele
We don't have time, we never finish a conversation [laughs] you never ever finish a conversation.

Emily
We make fun of each other don't we, you know we have banter don't we on our team.

Jeremy
Especially in our two teams everyone's been here for quite a long time, knows each other a long time. I mean I've been here 7 years and I'm one of the newer people in our area and everyone knows each other. Everyone's similar sort of age-ish. Everyone's got similar work-life balance sort of thing.

Interviewer
But yours is different, you said you didn't finish a conversation I think there...

Adele
Yeah because you always get a beep in your ear, next call!

Martin
So when you try and talk to you team it's a constant red light, and it's like uhh.

Adele
And you never ever finish that conversation and you can remember what you were talking about?

Interviewer
Is that quite isolating in terms of when the headsets on, you know, you're not able to...

Adele
Well you can see from the telecaster how many calls are available, so you finish your call, if you haven't got a call straight away you can see you might, might, have a minute [laughs] to talk to someone.

Martin
9 times out of 10 you don't, because it's just constantly busy busy busy...

Adele
There's been days when I don't speak to anybody.

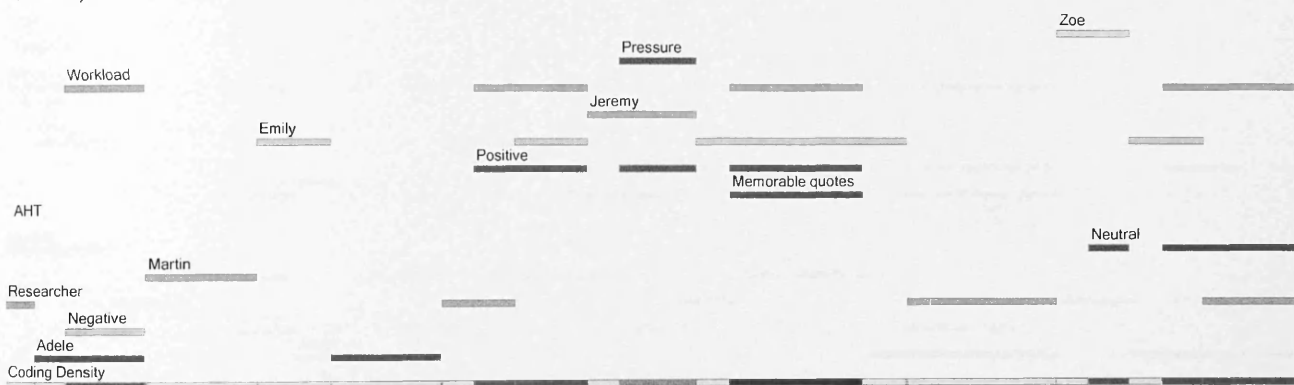
Martin
When you do try and have a chat with someone it's like [tap tap] you're in wrap.

Adele
Yeah, you're in wrap.

Interviewer
Wrap's the bit at the end of the call where doing your admin...

Change communication
Personal Support
Task nature
Process used
Financial reward
Task variety
Peer isolation

Feeling stressed
Emotional dissonance
Working relationships
Manager knowledge
Call Scoring
Mixed
Work Support TMs
Line management efficacy
Call Quality



Adele
If you don't go straight into available when you finish that call and you're talking to somebody on a non-work related issue, you would be on a conformance

Martin
Yeah cos there were a joke a while ago, well it's still a joke now. Cos people go around, they call them the wrap police they used to come round and say get in wrap.

Emily
We have health and safety police downstairs.

Adele
I went home and left myself in wrap and for an hour and 20 minutes they didn't come round then did they! [laughter] Nobody noticed that.

Interviewer
So, so in collections then you've got more opportunity to get support from team colleagues?

Emily
Yeah, we've still got work, we've still got to do us job, at end of day but...

Jeremy
We haven't got the pressure of the phone as much, like one day you might not be on the phone at all. And if you are it's generally an hour or two and the most.

Emily
We're quite spoilt actually but then we do a lot of paperwork and stuff, so we've got that end of it haven't we. You know at least if we're doing that we can say 'Jeremy what do you think of this?' Letter or whatever you know.

8. Adverse weather impact

Interviewer
And finally, a busy period in August because of the weather and other factors, how did that affect you, because it wasn't just the contact centre was it? There was other pressures on collections to support.

Zoe
We had to take the contact centre calls, we were all planned out for a day weren't we.

Emily
And we were doing AZ's extra, well we still are aren't we?

Interviewer
Is that still going on?

Change communication
Personal Support
Task nature
Process used
Financial reward
Task variety
Peer isolation
Peer support
Feeling stressed
Emotional dissonance
Working relationships
Manager knowledge
Call Scoring
Mixed
Work Support TMs
Line management efficacy
Call Quality
Zoe
Pressure



Emily
It's still going on.

Interviewer
And what was that like in the contact centre then at that time?

Martin
It was just hectic, I said to a number of people you know I've never known quite a period. As soon as you come in was constantly busy, busy busy. Red light, escalation just...

Adele
I were on holiday when that happened.

Martin
It's just like, you know, as Adele says it's like a mad house cos sometimes you just .

Emily
Were it worse than the big freeze?

Martin
I am finding that sort of like now you're not getting any quiet periods its just constantly busy, always red escalation. Whether it's understaffed or, you know just the volume of calls you're getting, it's always busy. You know [laughs] at least you come in and you're guaranteed a busy day.

Interviewer
And I suppose that's the good side of it is it, the fact that...

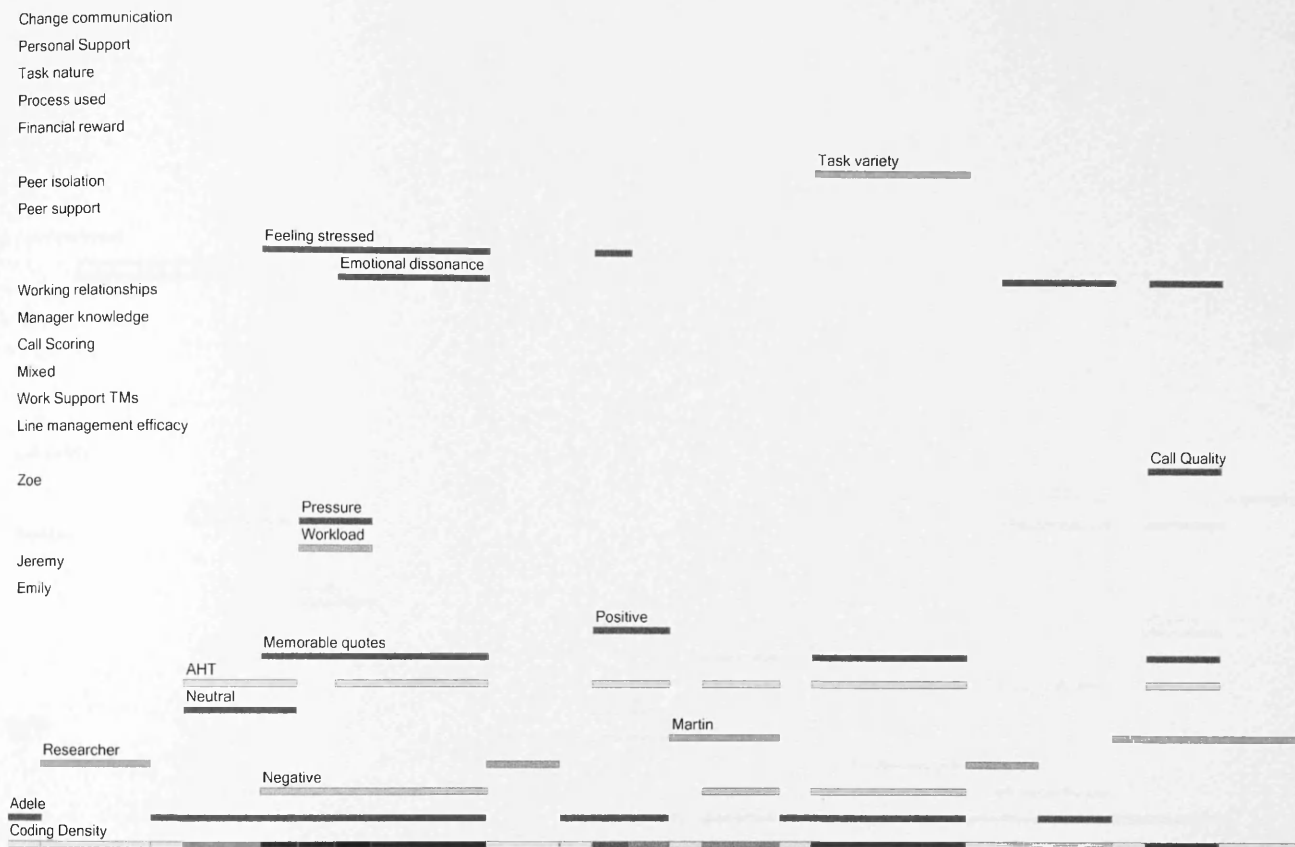
Martin
And it goes really quick.

9. Work pressure

Adele
I don't mind it being busy. I'm happy to do call after call. I don't want to be sat there for half an hour with nowt to do cost it's boring. Come in early and some mornings it's quiet and I've done a really early morning and I'm bored. I'm quite happy to do call after call, given the time let me do that call. Without the pressures of behind.

Interviewer
So it's not the business of the calls it's the way...

Adele
I don't mind I'd rather be busy, to be honest I ignore that red light because at the end of day I come into work and I take the calls and I do it to the best of my ability as far as I'm concerned. Whether that red light's on or not I don't care cos I'm not messing about.



Interviewer
Sure, but it's the way those metrics were being dealt with that you had the issue with earlier when we talked about AHT.

Adele
It's all that in the background that gets to you. And some days you know if you've been talking a long time on the phone, to customers, and you know get your stats through and half 10, you get them through again and half 12. I know if my stats come through at half 10 and they're high I feel a knot here and it's constantly there. And then you're getting long calls after and you're not getting any short ones. It's that pressure. And there's been some days when I've come into work knowing that my handling time is quite bad and I've sat in't car thinking 'I don't want to go in there, I really don't want to go in there'. And it shouldn't be like that, if I'm doing my job to the best of my ability it should be all that counts.

Interviewer
Mmmim, yeah, OK.

Adele
But yeah I do I get a knot there sometimes and I go out and ... but if you have a good day it's other way isn't it?

Martin
Well you do, cos you get that one call that throws everything out the window. And you just think that's done me for the month.

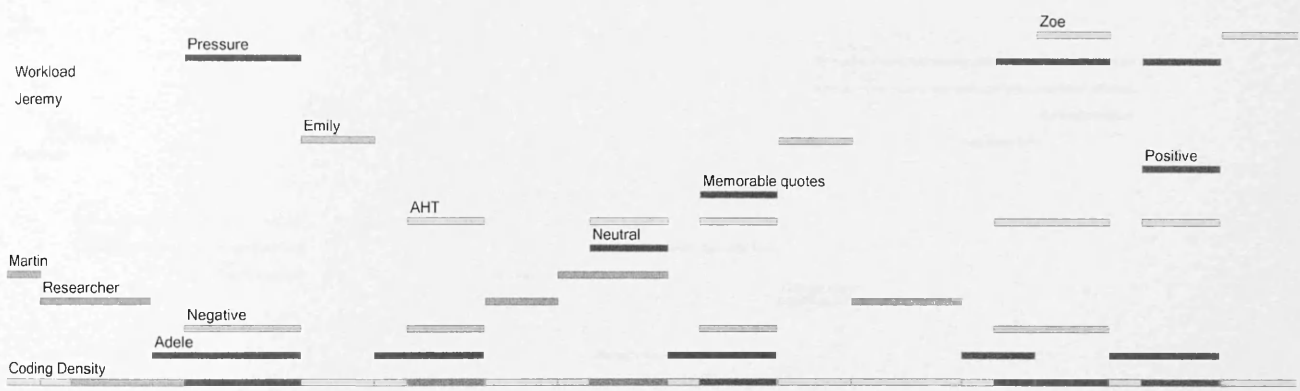
Adele
Yeah yeah, I'm never going to get it back. I'm never going to get my time back. You need like 10 quick payment calls that just don't come in do they. 'I've got a payment, I've got a payment....' "oh and by the way I want a meter" 'Nooooo' and you're literally thinking 'Nooooo'. It shouldn't be like that.

Interviewer
So that's a challenge because you've got to provide a good quality of customer service...

Adele
Can't do it. You've got to let it go out the window, to me I've got to just deal with it.

Martin
You're always thinking which way's the best way to give a good service for a minimum time. You know it's always going round your head, sort of where can I put this, where can I put that. But it's like...

Change communication
Personal Support
Task nature
Process used
Financial reward
Task variety
Peer isolation
Peer support
Feeling stressed
Emotional dissonance
Working relationships
Manager knowledge
Call Scoring
Mixed
Work Support TMs
Line management efficacy
Call Quality



Interviewer
And how do you do that when, as you said, inside your head your thinking 'oh no' how do you stop yourself from laying that on to the customer?

Adele
I tend to talk fast, right, and I'm always getting told to slow down. But probably when I'm in that situation I talk faster because I'm panicking. It's very hard to slow down when you've got that pressure.

Emily
It doesn't seem helpful to send you your stats twice a day.

Adele
Half past 10 and half past, well I go home at 1, so I get them at half past 10 and half past 1. I think they come out at half 2 as well. It's awful.

Interviewer
Sure.

Martin
If you getting them continuous, I'll say to a manager sometimes 'it's not how you start, it's at end of day when you finish'. It might be up but come end of the day it might be down.

Adele
I tell my manager not to send me them if they're bad, it just puts me under pressure. She said but then you'll know they're bad. Yes but I won't know how bad!

Emily
This is news to us.

Interviewer
This is back to the point about how they're done, not whether they're done, presumably? Because you might argue that there's a need for the stats in order to run an efficient operation.

Adele
There is a need to have stats there, there is. But...

Zoe
But if it's putting that much pressure on you it's going to make it worse.

Adele
But then if you're having a good day, if you're having a good day, you think 'ohh' and it's a nice feeling.

Zoe
It's swings and roundabouts isn't it?

Change communication
Personal Support
Task nature
Process used
Financial reward

Peer isolation
Peer support
Feeling stressed
Emotional dissonance
Working relationships
Manager knowledge
Call Scoring

Work Support TMs
Line management efficacy
Call Quality

Zoe

Emily
Positive

AHT
Neutral
Martin

Adele
Coding Density



Task variety

Mixed

Pressure
Workload

Jeremy

Memorable quotes

Researcher

Negative

Emily
What stats do they send you then?
Adele
What's your actual handling time up to that point.
Martin
What you've done in the hour, first two hours you've been here. So it's like how many calls and where you're at.
Jeremy
If you get that email at half past ten, you think you're doing alright but it's rubbish. How does that make you feel for rest of day then?
Adele
Well then if it's rubbish you're pressured then to try and get it down.
Martin
It puts it in your head that you've got to bring it down. They've sent the targets out and you think I've had a bad start and it's like I've got to pull it around somehow.
Adele
You cannot help what calls you get, you know every single call you get you don't get identical calls. People will think you'll do a change of address, a payment, every call is different. I've been here 6 year and I shouldn't have to ring floor over questions I should know it all. But you think 'What? What sort of call's that about?'

Interviewer
Sure, ok. Anything else you want to add? Collections, in terms of your workload, more varied? More discretion over the way you manage your workload?

Zoe
Yes, I suppose so.

Emily
Definitely

Jeremy
Yeah, I pretty much, we get like set work, but I do any work that doesn't get planned in can do it as and when really. But there's no pressure about that.

Appendix 17 – Qualitative Data Analysis

	Collections		Call Centre	
	A: Positive	B: Negative	A: Positive	B: Negative
1: Demands	0	0	0	0
2: Staff turnover	7	1	5	12
3: Task variety	0	5	3	5
4: Too little to do	0	0	1	1
5: Resource adequacy	2	0	0	0
6: People resources	2	5	0	7
7: Workload planning	1	0	0	0
8: System resources	0	0	0	0
9: Line management efficacy	15	24	34	23
10: 3rd party deadlines	0	0	0	0
11: Workload	8	20	14	29
12: Pressure	3	11	5	22
13: Working environment	1	3	1	1
14: Adverse Weather	6	16	12	19
15: Call Quality	1	10	13	17
16: AHT	1	13	9	35
17: Customer Voice	2	7	1	3
18: Team ServiceZone	3	18	0	1
19: Task nature	4	2	1	4
20: Targets	0	0	0	0
21: Control	0	0	0	0
22: Work-life balance	5	0	6	3
23: Work patterns	5	6	9	18
24: Task discretion	3	3	3	5
25: Development opportunities	3	1	14	8
26: Quiet time	3	4	0	0
27: Holidays	0	0	0	0
28: Participation	0	0	0	0
29: Active Participation	26	0	37	2
30: False Participation	2	5	0	6
31: No Participation	0	5	0	4
32: Buzz and Hubs	2	0	1	0
33: Team Meetings	1	0	0	2
34: 1:2:1s	0	1	1	3
35: Positive Impact	7	0	11	0
36: Negative Impact	0	6	0	7
37: Informed decisions	1	2	5	0
38: Support	0	0	0	0
39: Work Support	0	0	0	0
40: TMs	22	27	24	22
41: Coaches	0	0	1	0
42: Floorwalkers	0	0	0	0
43: Personal Support	20	4	4	1
44: Manager availability	7	0	18	17
45: Manager knowledge	8	14	23	18
46: Peer support	35	7	22	6
47: Peer isolation	0	5	0	11
48: Communication	16	10	13	8
49: Celebration of success	2	0	1	0
50: High workload culture	0	0	0	0
51: Long hours culture	0	0	0	0
52: Call Scoring	2	6	7	0
53: TM emotional support	3	4	0	0
54: TL-TM Relationship	8	0	7	5
55: Organisational support	0	0	0	0

Turnover

Call centre part of ending to business, good development opportunities but currently high staff turnover

Manager Support

Team managers busy with supporting others, but knowledge & availability critical to perception of support. Call Centre managers perceived as more knowledgeable and more available.

Performance management

Call Centre staff subject to more monitoring and targeting - perhaps related to process rather than performance. Performance job reward stronger in call centre. -ve impact on financial reward due to scoring processes.

Participation

Evidence of active participation in both centres, mainly from intervention & AHT workshops.

Adverse Weather

Adverse weather impact on both centres workloads, but more perception of white room in Call Centre - we meet in collections due to Team ServiceZone

Peer Support

Comparison of peer support/ isolation between call centre and collections

Figure 38 – Initial Coding Matrix

Contact Centre.

Hot Nodes - Emerging Themes (from coding matrices)

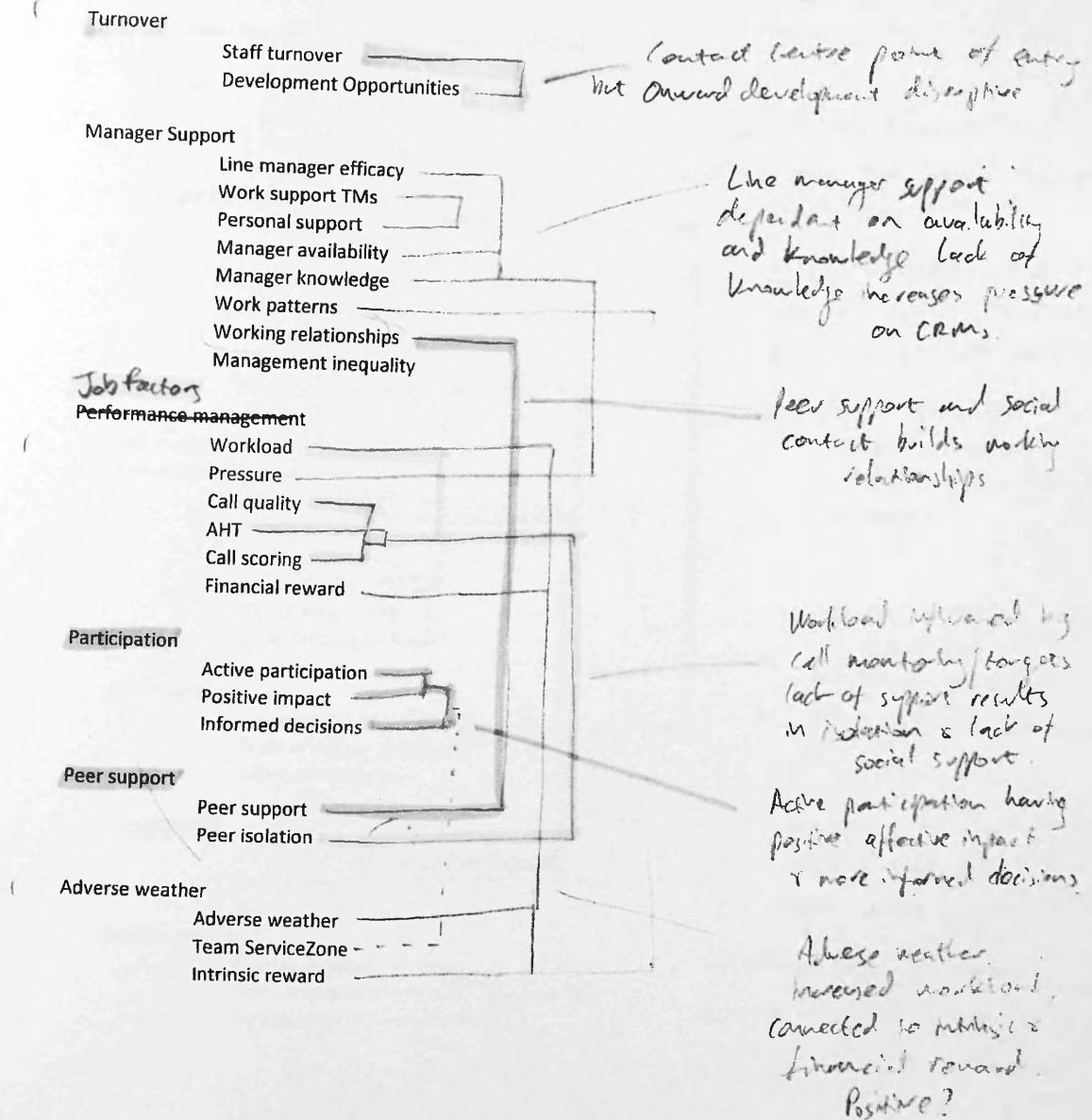


Figure 39 – Initial Code Mapping – Contact Centre

Collections

Hot Nodes - Emerging Themes (from coding matrices)

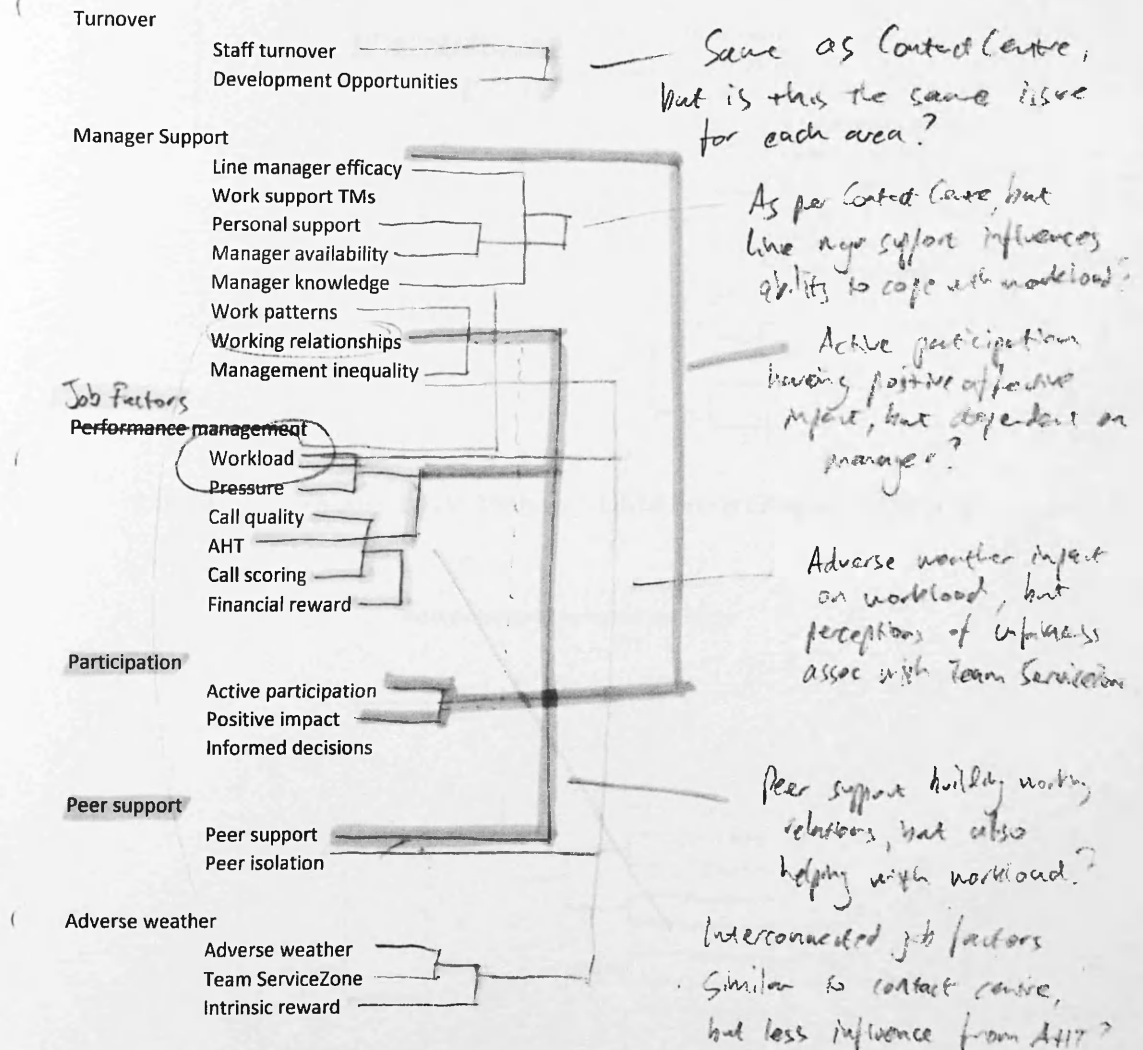


Figure 40 – Initial Code Mapping - Collections

Nodes clustered by word similarity

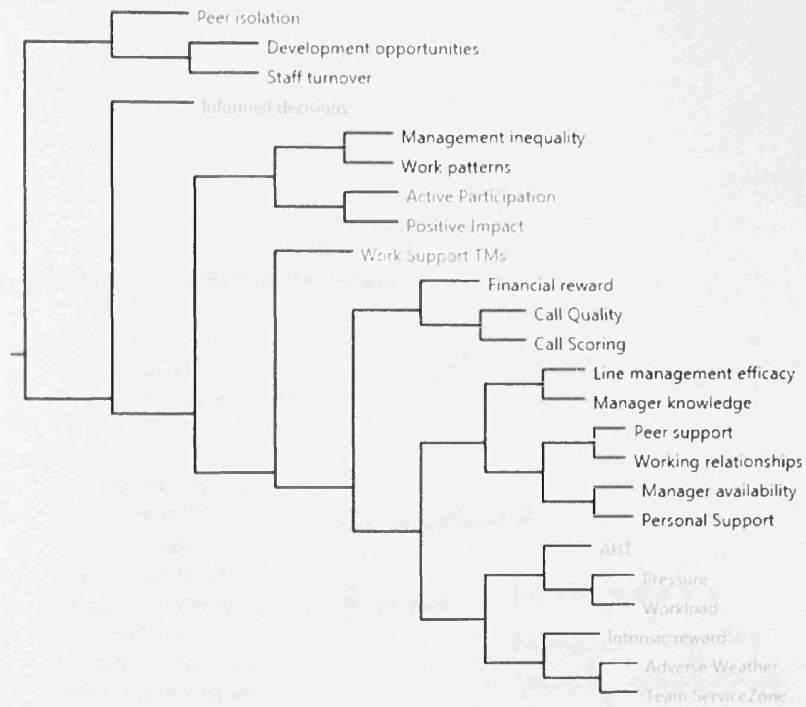


Figure 41 – NVivo Cluster Analysis – CRM Focus Groups, Collections

Nodes clustered by word similarity

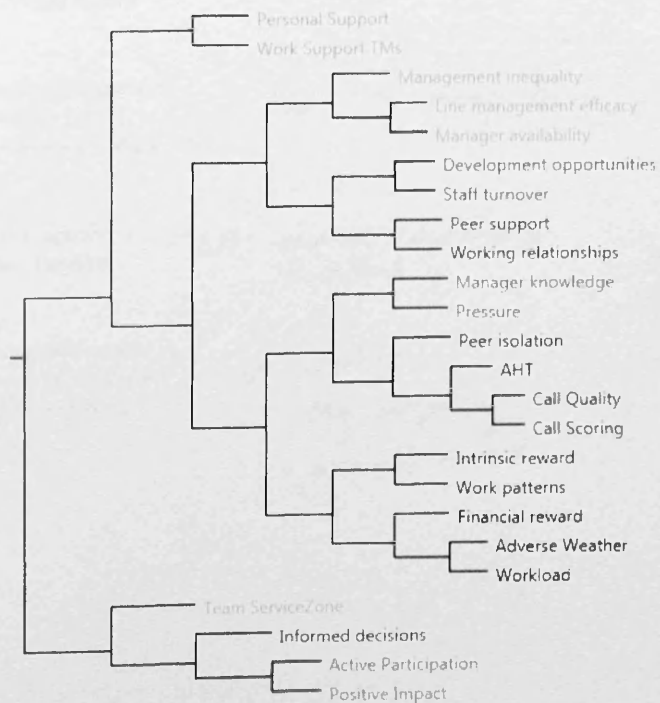


Figure 42 – NVivo Cluster Analysis – CRM Focus Groups, Contact Centre

v1

Hot Nodes - Emerging Themes (from coding matrices)

Turnover

- Staff turnover
- Development Opportunities



Manager Support

- Line manager efficacy
- Work support TMs
- Personal support
- Manager availability
- Manager knowledge
- Work patterns
- Working relationships
- Management inequality

Add workload.

Remove Work patterns
Manager inequality
Working relationships.

Job Factors

Performance management

- Workload
- Pressure
- Call quality
- AHT
- Call scoring
- Financial reward

Add Peer isolation
Peer support

Participation

- Active participation
- Positive impact
- Informed decisions

Add line manager efficacy.

Peer support

- Peer support
- Peer isolation

Add Working relationships
Workload

Adverse weather

- Adverse weather
- Team ServiceZone
- Intrinsic reward

Add workload
Mgt inequality
Financial reward

Figure 43 – Code Mapping ‘Hot Nodes’ Version 1

Hot Nodes - Emerging Themes (from coding matrices)

v2

Staff Turnover

- Staff turnover
- Development Opportunities

Drop

Manager Support

- Line manager efficacy
- Work support TMs
- Personal support
- Manager availability
- Manager knowledge
- Workload

Re-number

Job factors

- Workload
- Pressure
- Call quality
- AHT
- Call scoring
- Financial reward
- Peer isolation
- Peer support

Participation

- Active participation
- Positive impact
- Informed decisions
- Line manager efficacy

Peer support

- Peer support
- Peer isolation
- Working relationships
- Workload

Adverse weather

- Adverse weather
- Team ServiceZone
- Intrinsic reward
- Workload
- Management inequality
- Financial reward

Compare & contrast

Exclude for CMTs and TMs
in each area

Figure 44 – Code Mapping ‘Hot Nodes’ Version 2

Hot Nodes - Emerging Themes

v3

From coding matrices, amended by cluster analysis

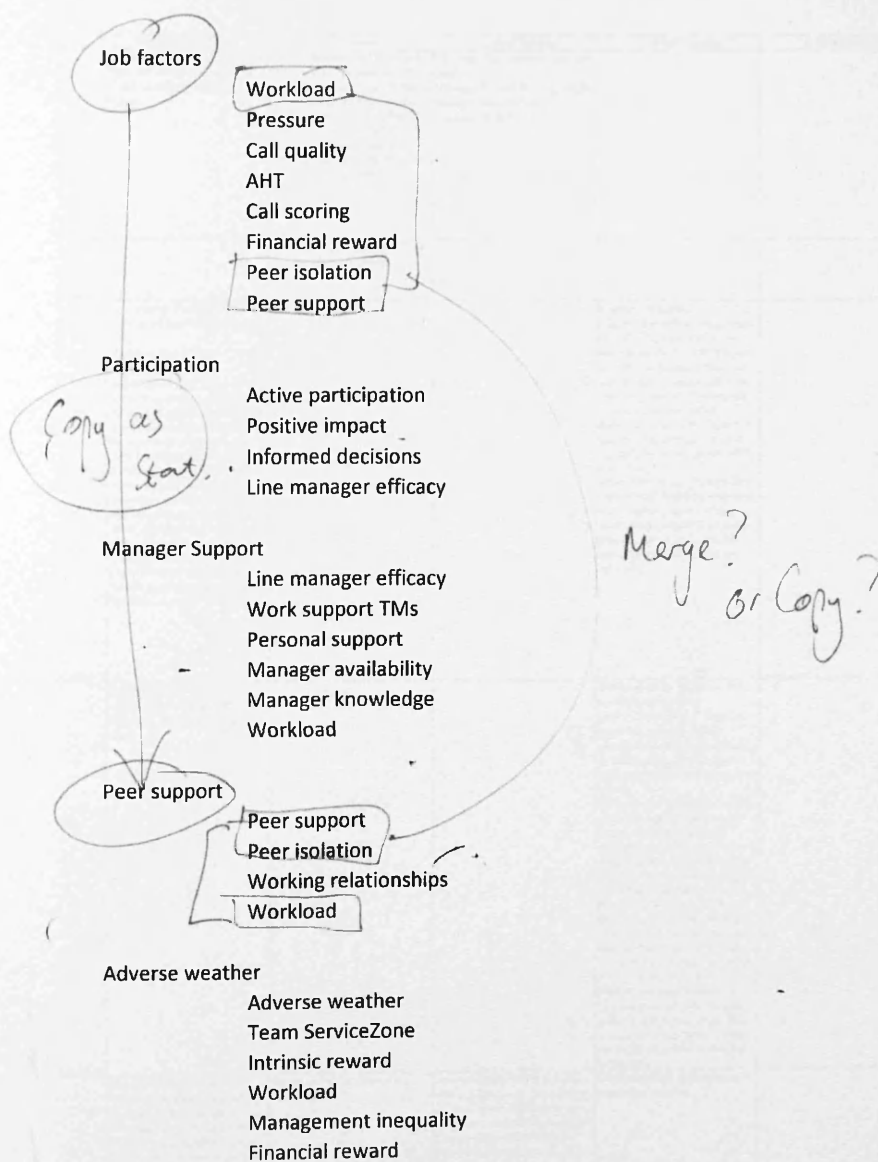


Figure 45 – Code Mapping 'Hot Nodes' Version 3

Manager Support - Contact Centre

	A: Line management efficacy	B: Workload	C: Manager availability	D: Manager knowledge	E: Personal Support	F: Work Support TMs
1: Adele	Not clear if it is TM or TL above them that are the problem Think manager is lovely and helpful.	Likes being busy and the type of work, but not the pressure - "I don't mind it being busy, I'm happy to do call after call after call. I don't want to be sat there for half an hour with now to do cost it's boring, I'm quite happy to do call after call after call, given the time let me do that call. Without the pressures of behind."	Meetings with manager to review targets Manager sits within team, helpful Manager available when floorwalker isn't			Limited advice from managers "just talk less" Manager helpful, bombarded with questions Manager supportive when can't through to floorwalker. Manager does help
2: Annabe		High workload, don't get a break all day (adverse weather?)				Managers told to support, but across contact centre not individuals
3: Carys	AHT scoring shouldn't be so set in stone, be more discretion, grey areas. Managers very similar Manager doesn't have knowledge to back it up - "There was no knowledge to back up that she was in a position to tell me how I should be dealing with that. No common sense from managers - "Common sense, somebody with common sense, somebody that realises that not every call starts and ends in exactly the same kind of way, but when your call is scored it has to follow procedure and if you don't follow the steps in that particular order and you venture to a different system then you are marked down because you are not following the script."			Manager takes calls. If more took calls they'd be more credible - "I do find that if they went on the phones and if they say, even for 2 or 3 hours, if they could take the calls I probably take what they said a little bit, it's being told what to do by someone who doesn't know what there is to do. I find it a bit hypocritical. How can you score me when you don't know how to do it?" More on credibility - "I'd take what they said with a little bit more clout if push came to shove and they could spend a couple of hours and then complain if I haven't quite asked the questions is quite the right order."		
4: Gwyneth	Inconsistent managers, some managers are very different Managers oblivious to read world			Managers go on tel phone, but noones marking them. Lack of knowledge - "they ask us for the answers... which increases our wrap time, talk time because we're trying to answer their question and deal with ours as well." Manager goes on phone, but lack of knowledge - "he goes on the phone occasionally when it's extremely busy and then asks us what to do and we're very busy. But when we ask her a question, we've got somebody on the phone and we're trying to find out, we need help. 'ermin, oh, well, have you tried.' and then somebody walks past and talks to them you're like 'excuse me' you know. They're just oblivious to the real world." More on manager knowledge - "She has done the job in the past, quite a long time ago. So she does know, but can't remember it. She can get by but relies on us to drag her through."		Impact of manager helping out, they need more support which increases wrap times
5: Hayley	Manager smug and abrasive - "He does everything absolutely by the letter and he's very patronising when you make a mistake, which we all do and hindsight is 20-20 it's all very well to sit there and say 'ah well' you should have done this' yeah! bloody know I should have done that..."	Impact on lack of support on workload	Couldn't find someone to help with a difficult call - For a phone call that I found very stressful, very difficult and felt totally abandoned during, because I couldn't find anybody else to help me and there was nothing I could do with it, all I was doing was getting abuse from this guy, in the situation there was nothing we could do and he really didn't have that much of a complaint in the first place."	Manager doesn't understand, has come from external.		Manager picks on single phrases but ignores stressful nature of call

Figure 46 – Example Framework Matrix – Manager Support, Contact Centre (page 1 of 4)

7

6 16

— importance of variability

7

5

13

presence

visibility

Figure 47 – Example Narrative Interpretation Notes – Manager Support, Contact Centre

Manager Support - Collections

	A: Line management efficacy	B: Workload	C: Manager availability	D: Manager knowledge	E: Personal Support	F: Work Support/Talk
	Line manager has favouritism, treats others differently. Questions if managers do anything about issues raised - "If we raise ideas it is looked at, but do they want to take it any further? You can go to somebody with an idea but does it go any further than that person you've done to?"	Manager doesn't understand workload. High calls during adverse weather. Impact of adverse weather on call volumes. "I mean it fascinates me how quick this rain comes down and they get pattered upstairs. Without actually doing it I couldn't understand it. And then with working for them, within 5 minutes of torrential rain starting they're on escalation. And times are just going mental."	Other managers not always available	Manager gives opinion about work problems. (16)	Manager provides personal support - "I can't fault him, if I've got a personal problem he'll sit and listen. And from a work point of view I can always approach him with things with regards to that. No, I can't fault him."	Can tell her manager anything. Manager don't realise what they put on others. Manager approachable with work problems.
1: Caitlin	Managers don't know what they do - "I don't think they quite identify with just what we do do. It's a long time since most managers have put headsets on". Managers don't know what we do don't think they quite identify with just what we do do. It's a long time since most managers have put headsets on and..."	Calls queuing but not free to take them. Frustration. "If you could take a call you'd take a call wouldn't you. I mean you can see on the screen that there's calls waiting. Or even more annoying they're shouting, there's calls queuing..." (17)		Managers lack of knowledge - "They're out of touch in a way they wouldn't know what to do anyway, they wouldn't be able to action it." (19)		Managers limited in the support they can give - see knowledge
2: Casey	Managers not acting on issues, lack of empowerment to resolve issues? - "nothing will be done, can and will I suppose are different."	Impact of pop ups from managers on workload. Adverse weather mainly hit contact centre, but collections required to support.	TL approachable if she couldn't talk to manager	Managers don't know what she's doing	Manager very good at providing personal support, very understanding.	
3: Eileen	Prefers a man manager to one who is systems focussed. Manager who knew how to manage tel person was a better manager.	Balances workload with social contact, when there's work to do it quietsens off.			Wants a 'person manager' not a 'system manager' - "If someone said to me, right you can have a choice, a choice of one manager that knows the system in and out but is not a very good man manager as to say, yeah you can have that manager, or you can have someone who's not very cracking on the systems but really knows how to manage the team: manage the person. I would go for the person that knows how to manage the person." "I've worked with a few managers who've had both and my experience was to work with the manager who knew how to manage me or manage the needs was better... but the manager that knew the systems but not a very good man manager as to say would turn round and say 'no that's it, final'."	
4: Elise	Manager doesn't know the job, out of touch.	Collections always helping out contact centre, not the other way around. Little support for taking on contact centre work. Impact on own workload of helping contact centre with calls. "You're thinking 'you want me to do this, you want me to do that' but then we've got to jump on phones because it's too busy upstairs taking overflow calls."	Manager available, better for personal issues not work.	Manager wouldn't know how to do the job - "He wouldn't have a clue. He didn't know how to update DMS or something like that, if he wanted to do something, he'd have to come and ask us how to do this." "In the job role, because he's so out of touch, he can't support you so if you're really busy or if you've got a letter, or if you've got something to go him would be pretty silly he's not in touch with it, he doesn't know what's going on." (10)	Manager very good at providing personal support, contrast with work support - "I've had some stuff go on in my personal life and he's been really good in that aspect so he's quite fair in things like that. But in the job role, because he's so out of touch, he can't support you so if you're really busy or if you've got a letter, or if you've got something, to go him would be pretty silly he's not in touch with it, he doesn't know what's going on. But with personal stuff he's quite good like that, he's fair and stuff like that." (15)	Implies managers don't view CRMs positively - "pitsville below them"
5: Ellie	Relationship difficulty with manager				Despite relationship problems, manager has been very supportive with personal issues.	Didn't get on well with manager, felt picked on. Wants a manager that is firm but fair.
6: Emily						

Figure 48 – Example Framework Matrix – Manager Support, Collections (page 1 of 3)

Manager Support - Collections

low turnover, less
progression opportunity

Like mgr efficacy - lack of job knowledge.
long time since they did the job ①
out of touch

- consistency - some mgrs good ② ③
- process vs man mgrs ④
- career skills.

W reload - mgr use of pop-ups ⑤

Mgr Availability - not all available ⑦
- more for personal issues, less for work ④ ⑧
check Jeremy
life quote.

Mgr Knowledge - lack of knowledge of the job ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯
cfw - some do, though, because done the job ⑰

Personal Support - good a provided support for personal issues. ⑭ ⑮ ⑯ ⑰

Work Support - lack of knowledge - see above.

Knowledge - availability - personal support

Consistency

Career progression lower turnover

Figure 49 - Example Narrative Interpretation Notes - Manager Support, Collections

	A : Action	B : Research	C : 10	D : 11	E : 12	F : Post 12
1 : Diagnose	8	17	26	2	0	0
2 : Plan	160	125	87	115	73	12
3 : Act	140	47	34	128	29	6
4 : Fact find	60	17	13	46	1	16
5 : Reflect	96	28	16	69	6	33
6 : Organisational context	8	24	29	2	4	1
7 : Significant problem	1	1	2	0	0	0
8 : Felt need	1	2	5	0	0	0
9 : Time conflict	18	10	14	9	4	0
10 : Business demands	7	4	4	5	1	1
11 : Attrition	4	5	1	3	1	1
12 : Manager Change	3	2	0	3	2	0
13 : Adverse Weather	1	9	0	0	10	0

Figure 50 – Coding Matrix Analysis of Action Research Cycles

Don't
check

←

SRA Process - Collections

	A : 1001	B : 1002	C : 1003	D : 1004 Veronica	E : 1005 Alan	F : 1006	G : 1007	H : 1008 Bea
1 : Strong evidence	0	8	7	2	2	11	9	0
2 : Moderate evidence	3	1	6	5	2	3	1	3
3 : Weak evidence	2	1	0	3	7	1	2	2
4 : No evidence	3	1	5	1	5	3	1	3
5 : Issues identified	3	6	6	3	6	6	6	3
6 : Current measures	3	6	6	3	5	6	6	3
7 : Local action plan	3	4	5	3	6	6	6	3
8 : Action Plan Summary	1	1	1	1	1	1	1	0
9 : Plan review	0	0	1	1	1	1	0	0
10 : Risk Rating	3	6	6	3	6	6	6	3
11 : High	0	0	3	2	0	1	2	0
12 : Med	0	2	1	0	2	4	1	2
13 : Low	0	1	2	1	0	0	3	0
14 : Unrated	3	3	0	0	4	1	0	1

- Step 1 - look at evidence of process compliance
- number of gds completed
 - strength of evidence (Strong → No)
 - ratings given, esp absence of unwanted

Check 1002
1003
1006
1007

Figure 51 – Coding Matrix Analysis of Stress Risk Assessment
Process Compliance – Collections

SRA Hot Nodes - Collections

	A : 1001	B : 1002	C : 1003	D : 1004 Veronica	E : 1005 Alan	F : 1006	G : 1007	H : 1008 Bea
1 : Line management efficacy	1	6	3	0	0	3	3	0
2 : Workload	0	4	2	0	0	3	3	0
3 : Pressure	0	1	1	0	0	1	1	0
4 : Adverse Weather	0	0	0	0	0	0	0	0
5 : Call Quality	2	2	1	0	0	0	0	0
6 : AHT	0	3	4	0	5	0	2	1
7 : Team ServiceZone	0	0	0	0	0	4	0	0
8 : Active Participation	0	3	2	0	1	3	1	0
9 : Positive Impact	0	0	0	0	0	0	0	0
10 : Informed decisions	0	1	0	0	0	0	0	0
11 : Work Support TMs	0	5	2	0	0	2	5	1
12 : Personal Support	0	0	0	0	0	0	0	0
13 : Manager availability	0	4	1	0	0	0	5	0
14 : Manager knowledge	1	0	0	0	0	0	0	0
15 : Peer support	0	0	0	0	2	1	2	0
16 : Peer isolation	0	0	0	1	0	0	1	0
17 : Call Scoring	0	1	1	0	0	1	6	1
18 : Working relationships	0	4	1	1	0	1	6	3
19 : Financial reward	0	3	1	0	0	2	4	0
20 : Intrinsic reward	0	0	0	0	0	0	0	0
21 : Management inequality	2	3	0	0	0	2	7	2

Step 2 - indication of relevance - 2+ coding for hot nodes

Step 3 - look at original SRA documentation to confirm

Figure 52 – Coding Matrix Analysis of Stress Risk Assessment Node Mapping – Collections

Figure 53 – Coding Matrix Analysis of Stress Risk Assessment Process Compliance – Contact Centre

SRA Hot Nodes - Contact Centre

	A: 1009	B: 1010	C: 1011	D: 1012	E: 1013 Terry	F: 1014 Carl	G: 1015	H: 1016 Holly	I: 1017
1: Line management efficacy	0	0	0	3	2	0	4	0	1
2: Workload	3	0	0	3	2	3	2	1	4
3: Pressure	0	2	2	1	1	1	4	0	1
4: Adverse Weather	0	0	0	0	0	0	0	0	0
5: Call Quality	0	1	3	2	1	2	0	3	7
6: AHT	11	5	6	5	11	5	10	3	13
7: Team ServiceZone	0	0	0	0	0	0	1	0	0
8: Active Participation	2	2	0	0	6	1	5	1	3
9: Positive Impact	0	0	0	0	0	0	0	0	0
10: Informed decisions	0	0	0	0	0	0	0	0	0
11: Work Support TMs	4	3	1	7	4	3	7	2	4
12: Personal Support	0	0	0	0	0	1	0	0	0
13: Manager availability	0	1	1	2	4	1	1	1	1
14: Manager knowledge	0	0	0	1	0	0	2	0	0
15: Peer support	0	0	0	2	0	2	2	0	0
16: Peer isolation	1	0	0	0	1	0	0	0	0
17: Call Scoring	0	0	0	0	1	0	1	2	2
18: Working relationships	2	0	0	3	0	2	0	0	0
19: Financial reward	2	0	0	0	0	3	0	2	0
20: Intrinsic reward	0	0	0	0	0	0	0	0	0
21: Management inequality	1	0	0	0	0	0	3	2	1

Figure 54 – Coding Matrix Analysis of Stress Risk Assessment
Node Mapping – Contact Centre

Appendix 18 – Additional Statistical Test Results for Hypothesis 1 and 1a

Table 44

Difference in Work-related Stress for Intervention Group Participants Between T1 and T2 (n=49, T1-T2-T3 sample)

Variable	T1		T2		t	df	ρ	η ²	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.82	0.64	3.74	0.69	0.70	48	.485	.01	-.13	.28
Control	2.73	0.97	2.78	1.13	-0.37	48	.716	.00	-.30	.21
Manager Support	3.73	0.93	3.81	0.93	-0.78	48	.441	.01	-.27	.12
Peer Support	3.95	0.75	4.11	0.82	-1.77	48	.083	.06	-.34	.02
Role	4.27	0.78	4.24	0.77	0.37	48	.714	.00	-.15	.22
Change	3.29	1.00	3.25	0.95	0.36	48	.721	.00	-.19	.27

Table 45

Difference in Work-related Stress for Intervention Group Participants Between T2 and T3 (n=49, T1-T2-T3 sample)

Variable	T2		T3		t	df	ρ	η ²	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.74	0.69	3.95	0.70	-1.93	48	.059	.07	-.42	.01
Control	2.78	1.13	2.73	1.14	0.42	48	.673	.00	-.20	.30
Manager Support	3.81	0.93	3.60	0.86	2.34	48	.024	.10	.03	.39
Peer Support	4.11	0.82	3.94	0.81	1.78	48	.081	.06	-.02	.36
Role	4.24	0.77	4.20	0.75	0.48	48	.636	.00	-.13	.21
Change	3.25	0.95	3.12	0.95	1.51	48	.138	.05	-.05	.32

a - based on 1000 bootstrap samples unless otherwise noted

Table 46

Difference in Work-related Stress for Control Group Participants Between T1 and T2 (n=62, T1-T2-T3 sample)

Variable	T1		T2		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.19	0.65	4.13	0.65	1.11	61	.271	.02	-.05	.17
Control	3.06	1.04	3.07	0.98	-0.04	61	.965	.00	-.19	.18
Manager Support	3.97	1.02	3.86	0.99	1.44	61	.155	.03	-.04	.26
Peer Support	4.13	0.77	4.07	0.77	0.80	61	.429	.01	-.09	.20
Role	4.51	0.68	4.43	0.72	1.13	61	.263	.02	-.06	.22
Change	3.40	0.95	3.44	0.97	-0.55	61	.583	.00	-.20	.11

Table 47

Difference in Work-related Stress for Control Group Participants Between T2 and T3 (n=62, T1-T2-T3 sample)

Variable	T2		T3		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.13	0.65	4.14	0.64	-0.12	61	.904	.00	-.14	.12
Control	3.07	0.98	3.16	1.10	-0.98	61	.329	.02	-.28	.10
Manager Support	3.86	0.99	3.85	1.06	0.10	61	.922	.00	-.19	.21
Peer Support	4.07	0.77	4.10	0.79	-0.45	61	.657	.00	-.19	.12
Role	4.43	0.72	4.46	0.63	-0.58	61	.564	.01	-.14	.08
Change	3.44	0.97	3.51	0.95	-0.90	61	.373	.01	-.23	.09

a - based on 1000 bootstrap samples unless otherwise noted

Table 48

Difference in Work-related Stress for Intervention Group Participants Between T1 and T2 (n=73, T1-T2 and T2-T3 samples)

Variable	T1		T2		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.97	0.08	3.87	0.08	1.41	72	.162	.03	-.04	.26
Control	2.65	0.11	2.71	0.13	-0.51	72	.613	.00	-.24	.15
Manager Support	3.87	0.10	3.87	0.10	0.04	72	.965	.00	-.15	.16
Peer Support	4.08	0.09	4.18	0.09	-1.42	72	.159	.03	-.24	.04
Role	4.38	0.08	4.32	0.09	1.01	72	.316	.01	-.06	.20
Change	3.34	0.11	3.33	0.11	0.10	72	.920	.00	-.16	.20

Table 49

Difference in Work-related Stress for Intervention Group Participants Between T2 and T3 (n=80, T1-T2 and T2-T3 samples)

Variable	T2		T3		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.86	0.07	3.98	0.07	-1.59	79	.116	.03	-.27	.03
Control	2.64	0.12	2.59	0.12	0.55	79	.584	.00	-.14	.23
Manager Support	3.87	0.10	3.74	0.10	1.75	79	.085	.04	-.02	.28
Peer Support	4.17	0.09	4.02	0.09	2.26	79	.027	.06	.02	.27
Role	4.34	0.08	4.22	0.08	1.77	79	.081	.04	.00	.24
Change	3.32	0.10	3.22	0.10	1.36	79	.177	.02	-.05	.25

a - based on 1000 bootstrap samples unless otherwise noted

Table 50

Difference in Work-related Stress for Control Group Participants Between T1 and T2 (n=87, T1-T2 and T2-T3 samples)

Variable	T1		T2		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.07	0.08	4.04	0.08	0.66	86	.509	.01	-.06	.13
Control	2.86	0.12	2.81	0.11	0.69	86	.489	.01	-.10	.20
Manager Support	3.94	0.10	3.83	0.10	1.67	86	.098	.03	-.02	.25
Peer Support	4.09	0.08	4.02	0.08	0.93	86	.356	.01	-.07	.20
Role	4.44	0.07	4.38	0.07	1.00	86	.320	.01	-.05	.17
Change	3.30	0.10	3.37	0.11	-1.07	86	.288	.01	-.22	.07

Table 51

Difference in Work-related Stress for Control Group Participants Between T2 and T3 (n=83, T1-T2 and T2-T3 samples)

Variable	T2		T3		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.14	0.08	4.14	0.07	0.10	82	.917	.00	-.10	.13
Control	3.05	0.11	3.08	0.12	-0.39	82	.697	.00	-.17	.10
Manager Support	3.87	0.11	3.85	0.12	0.21	82	.834	.00	-.14	.16
Peer Support	4.12	0.08	4.08	0.09	0.58	82	.566	.00	-.10	.18
Role	4.51	0.07	4.47	0.07	0.80	82	.427	.01	-.06	.13
Change	3.46	0.10	3.42	0.11	0.53	82	.599	.00	-.11	.19

a - based on 1000 bootstrap samples unless otherwise noted

Table 52

Group Differences in Work-related Stress Between Intervention Group and Control Group

Variable	Intervention Group			Control Group			t	df	ρ	η^2	95% CI ^a	
	M	SD	N	M	SD	N					Lower	Upper
T1												
Demands	3.90	0.79	121	4.03	0.79	140	-1.34	259	.181	.01	-.32	.06
Control	2.52	0.97	121	2.69	1.11	140	-1.32	259	.188	.01	-.43	.10
Manager Support	3.80	0.94	121	3.87	0.94	140	-0.65	259	.513	.00	-.31	.17
Peer Support	4.05	0.79	121	4.03	0.71	140	0.18	259	.853	.00	-.15	.18
Role	4.32	0.77	121	4.43	0.66	140	-1.27	259	.205	.01	-.30	.06
Change	3.21	1.02	121	3.25	0.91	140	-0.33	259	.740	.00	-.27	.23
T2												
Demands	3.89	0.64	127	4.03	0.75	114	-1.52	239	.129	.01	-.31	.05
Control	2.54	1.09	127	2.79	1.05	114	-1.82	239	.069	.01	-.51	.01
Manager Support	3.82	0.87	127	3.87	0.92	114	-0.42	239	.673	.00	-.27	.16
Peer Support	4.15	0.74	127	4.06	0.75	114	1.01	239	.313	.00	-.08	.27
Role	4.30	0.70	127	4.44	0.65	114	-1.60	239	.112	.01	-.30	.01
Change	3.30	0.88	127	3.38	0.93	114	-0.65	239	.518	.00	-.31	.14
T3												
Demands	4.03	0.66	115	4.15	0.61	110	-1.44	223	.152	.01	-.27	.03
Control	2.50	1.01	115	3.09	1.10	110	-4.21	223	.000	.07	-.86	-.33
Manager Support	3.71	0.94	115	3.88	1.00	110	-1.29	223	.198	.01	-.42	.08
Peer Support	3.99	0.79	115	4.07	0.77	110	-0.80	223	.427	.00	-.29	.11
Role	4.21	0.72	115	4.41	0.64	110	-2.20	223	.029	.02	-.38	-.01
Change	3.21	0.92	115	3.44	0.94	110	-1.88	223	.061	.02	-.48	.00

a - based on 1000 bootstrap samples unless otherwise noted

Table 53

Difference in Work-related Stress for Intervention Group Participants Working in the Contact Centre Between T1 and T2 (n=14, T1-T2-T3 sample)

Variable	T1		T2		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.55	0.56	3.71	0.85	-0.73	13	.478	.04	-.64	.32
Control	2.55	1.08	2.84	1.22	-1.16	13	.266	.09	-.82	.24
Manager Support	4.01	0.87	4.24	0.71	-1.00	13	.337	.07	-.71	.26
Peer Support	3.95	0.59	4.38	0.66	-2.10	13	.055	.25	-.87	.01
Role	4.43	0.62	4.69	0.48	-1.59	13	.136	.16	-.62	.09
Change	3.40	0.76	3.38	0.92	0.13	13	.900	.00	-.38	.43

Table 54

Difference in Work-related Stress for Intervention Group Participants Working in the Contact Centre Between T2 and T3 (n=14, T1-T2-T3 sample)

Variable	T2		T3		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.71	0.85	3.52	0.79	0.89	13	.390	.06	-.28	.67
Control	2.84	1.22	2.45	1.19	1.92	13	.077	.22	-.05	.83
Manager Support	4.24	0.71	3.86	0.64	2.70	13	.018	.36	.08	.69
Peer Support	4.38	0.66	3.96	0.76	2.56	13	.024	.33	.06	.76
Role	4.69	0.48	4.55	0.48	0.90	13	.385	.06	-.20	.49
Change	3.38	0.92	3.19	0.96	0.95	13	.358	.07	-.24	.62

a - based on 1000 bootstrap samples unless otherwise noted

Table 55

Difference in Work-related Stress for Control Group Participants Working in the Contact Centre Between T1 and T2 (n=19, T1-T2-T3 sample)

Variable	T1		T2		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.93	0.66	3.92	0.80	0.12	18	.907	.00	-.22	.25
Control	2.67	1.12	2.71	0.99	-0.24	18	.811	.00	-.38	.30
Manager Support	4.05	0.67	3.95	0.99	0.64	18	.533	.02	-.24	.45
Peer Support	4.18	0.50	4.11	0.68	0.60	18	.559	.02	-.20	.36
Role	4.75	0.31	4.42	0.74	2.24	18	.038	.22	.02	.65
Change	3.12	0.88	3.23	1.02	-0.64	18	.532	.02	-.45	.24

Table 56

Difference in Work-related Stress for Control Group Participants Working in the Contact Centre Between T2 and T3 (n=19, T1-T2-T3 sample)

Variable	T2		T3		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.92	0.80	3.80	0.69	1.07	18	.298	.06	-.11	.35
Control	2.71	0.99	2.70	1.18	0.08	18	.938	.00	-.34	.36
Manager Support	3.95	0.99	3.77	1.02	0.93	18	.367	.05	-.23	.59
Peer Support	4.11	0.68	4.11	0.63	0.00	18	1.000	.00	-.38	.38
Role	4.42	0.74	4.51	0.57	-0.72	18	.481	.03	-.34	.17
Change	3.23	1.02	3.12	0.83	0.84	18	.411	.04	-.16	.37

a - based on 1000 bootstrap samples unless otherwise noted

Table 57

Difference in Work-related Stress for Intervention Group Participants Working in Collections Between T1 and T2 (n=35, T1-T2-T3 sample)

Variable	T1		T2		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.92	0.65	3.76	0.63	1.50	34	.144	.06	-.06	.39
Control	2.81	0.93	2.76	1.12	0.35	34	.731	.00	-.24	.34
Manager Support	3.62	0.94	3.63	0.95	-0.16	34	.871	.00	-.23	.20
Peer Support	3.96	0.81	4.01	0.86	-0.55	34	.584	.01	-.23	.13
Role	4.21	0.84	4.06	0.79	1.44	34	.160	.06	-.06	.37
Change	3.25	1.09	3.20	0.96	0.34	34	.740	.00	-.24	.34

Table 58

Difference in Work-related Stress for Intervention Group Participants Working in Collections Between T2 and T3 (n=35, T1-T2-T3 sample)

Variable	T2		T3		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.76	0.63	4.12	0.59	-3.34	34	.002	.25	-.59	-.14
Control	2.76	1.12	2.84	1.11	-0.56	34	.580	.01	-.39	.22
Manager Support	3.63	0.95	3.49	0.92	1.27	34	.212	.05	-.09	.37
Peer Support	4.01	0.86	3.94	0.85	0.63	34	.532	.01	-.16	.30
Role	4.06	0.79	4.06	0.79	0.00	34	1.000	.00	-.21	.21
Change	3.20	0.96	3.09	0.96	1.15	34	.258	.04	-.09	.32

a - based on 1000 bootstrap samples unless otherwise noted

Table 59

Difference in Work-related Stress for Control Group Participants Working in Collections Between T1 and T2 (n=43, T1-T2-T3 sample)

Variable	T1		T2		t	df	ρ	η ²	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.31	0.62	4.23	0.56	1.31	42	.197	.04	-.04	.21
Control	3.24	0.96	3.23	0.95	0.10	42	.918	.00	-.22	.24
Manager Support	3.93	1.15	3.82	1.00	1.34	42	.188	.04	-.06	.28
Peer Support	4.10	0.87	4.05	0.82	0.55	42	.587	.01	-.12	.22
Role	4.40	0.77	4.43	0.72	-.42	42	.678	.00	-.18	.12
Change	3.52	0.97	3.53	0.95	-.18	42	.859	.00	-.19	.16

Table 60

Difference in Work-related Stress for Control Group Participants Working in Collections Between T2 and T3 (n=43, T1-T2-T3 sample)

Variable	T2		T3		t	df	ρ	η ²	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.23	0.56	4.29	0.57	-.78	42	.440	.01	-.23	.10
Control	3.23	0.95	3.37	1.01	-1.21	42	.232	.03	-.37	.09
Manager Support	3.82	1.00	3.88	1.09	-.57	42	.571	.01	-.30	.17
Peer Support	4.05	0.82	4.10	0.86	-.61	42	.542	.01	-.22	.11
Role	4.43	0.72	4.44	0.66	-.13	42	.898	.00	-.13	.11
Change	3.53	0.95	3.68	0.96	-1.53	42	.133	.05	-.34	.05

a - based on 1000 bootstrap samples unless otherwise noted

Table 61

Difference in Work-related Stress for Intervention Group Participants Working in the Contact Centre Between T1 and T2 (n=26, T1-T2 and T2-T3 samples)

Variable	T1		T2		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.88	0.14	3.87	0.15	0.07	25	.948	.00	-.27	.31
Control	2.31	0.19	2.55	0.23	-1.46	25	.070	.08	-.58	.11
Manager Support	4.05	0.16	4.18	0.13	-0.81	25	.423	.03	-.42	.15
Peer Support	4.03	0.13	4.30	0.14	-1.93	25	.065	.13	-.53	.02
Role	4.51	0.11	4.60	0.11	-0.79	25	.436	.02	-.32	.12
Change	3.45	0.16	3.55	0.17	-0.72	25	.476	.02	-.38	.16

a - based on 1000 bootstrap samples unless otherwise noted

b - based on 999 bootstrap samples

Table 62

Difference in Work-related Stress for Intervention Group Participants Working in the Contact Centre Between T2 and T3 (n=36, T1-T2 and T2-T3 samples)

Variable	T2		T3		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.88	0.12	3.83	0.12	0.48	35	.637	.01	-.18	.28
Control	2.38	0.18	2.24	0.15	1.17	35	.249	.04	-.09	.38
Manager Support	4.16	0.13	4.02	0.14	1.29	35	.205	.05	-.11	.39
Peer Support	4.30	0.11	4.07	0.13	2.67	35	.011	.17	.08	.38
Role	4.62	0.07	4.40	0.11	2.34	35	.025	.14	.02	.44
Change	3.46	0.15	3.36	0.16	0.83	35	.411	.02	-.15	.36

Table 63

Difference in Work-related Stress for Control Group Participants Working in the Contact Centre Between T1 and T2 (n=35, T1-T2 and T2-T3 samples)

Variable	T1		T2		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.76	0.15	3.81	0.14	-0.59	34	.561	.01	-.23	.11
Control	2.38	0.18	2.34	0.16	0.17	34	.765	.00	-.19	.24
Manager Support	3.94	0.12	3.84	0.15	0.74	34	.465	.02	-.15	.34
Peer Support	4.03	0.11	4.01	0.11	0.13	34	.895	.00	-.15	.14
Role	4.49	0.11	4.34	0.12	1.20	34	.240	.04	-.10	.37
Change	3.02	0.15	3.22	0.16	-1.61	34	.116	.07	-.45	.04

Table 64

Difference in Work-related Stress for Control Group Participants Working in the Contact Centre Between T2 and T3 (n=36, T1-T2 and T2-T3 samples)

Variable	T2		T3		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.01	0.14	3.92	0.11	0.95	35	.347	.03	-.10	.25
Control	2.82	0.17	2.67	0.19	1.40	35	.170	.05	-.05	.33
Manager Support	3.91	0.16	3.77	0.18	1.13	35	.267	.04	-.09	.36
Peer Support	4.17	0.11	4.01	0.13	1.36	35	.183	.05	-.06	.38
Role	4.56	0.10	4.47	0.09	1.04	35	.304	.03	-.06	.25
Change	3.35	0.15	3.06	0.15	2.47	35	.019	.15	.05	.55

a - based on 1000 bootstrap samples unless otherwise noted

Table 65

Difference in Work-related Stress for Intervention Group Participants Working in Collections Between T1 and T2 (n=47, T1-T2 and T2-T3 samples)

Variable	T1		T2		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.03	0.09	3.87	0.09	1.90	46	.063	.07	-.01	.33
Control	2.85	0.13	2.79	0.15	-.006	46	.098	.00	-.18	.28
Manager Support	3.77	0.13	3.69	0.13	0.84	46	.408	.01	-.10	.23
Peer Support	4.11	0.12	4.11	0.12	-.007	46	.943	.00	-.19	.22
Role	4.31	0.12	4.16	0.11	1.88	46	.066	.07	.00	.33
Change	3.28	0.15	3.21	0.13	0.61	46	.546	.01	-.15	.31

Table 66

Difference in Work-related Stress for Intervention Group Participants Working in Collections Between T2 and T3 (n=44, T1-T2 and T2-T3 samples)

Variable	T2		T3		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.84	0.09	4.11	0.08	-2.71	43	.010	.15	-.46	-.07
Control	2.85	0.16	2.88	0.16	-.019	43	.850	.00	-.28	.23
Manager Support	3.63	0.14	3.50	0.13	1.18	43	.246	.03	-.07	.34
Peer Support	4.06	0.13	3.98	0.12	0.84	43	.406	.02	-.11	.27
Role	4.11	0.12	4.08	0.11	0.33	43	.740	.00	-.14	.20
Change	3.20	0.14	3.10	0.13	1.08	43	.285	.03	-.09	.30

a - based on 1000 bootstrap samples unless otherwise noted

Table 67

Difference in Work-related Stress for Control Group Participants Working in Collections Between T1 and T2 (n=52, T1-T2 and T2-T3 samples)

Variable	T1		T2		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.29	0.09	4.19	0.09	1.70	51	.096	.05	-.01	.21
Control	3.19	0.14	3.13	0.14	1.15	51	.083	.03	-.12	.25
Manager Support	3.94	0.15	3.82	0.13	1.70	51	.096	.05	-.01	.28
Peer Support	4.13	0.11	4.03	0.12	1.08	51	.285	.02	-.09	.29
Role	4.41	0.10	4.40	0.10	0.10	51	.920	.00	-.11	.13
Change	3.48	0.13	3.47	0.14	0.08	51	.940	.00	-.16	.17

Table 68

Difference in Work-related Stress for Control Group Participants Working in Collections Between T2 and T3 (n=47, T1-T2 and T2-T3 samples)

Variable	T2		T3		t	df	p	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	4.25	0.08	4.30	0.08	-0.69	46	.492	.01	-.20	.10
Control	3.23	0.13	3.39	0.14	-1.54	46	.130	.05	-.40	.08
Manager Support	3.84	0.15	3.91	0.16	-0.73	46	.469	.01	-.30	.12
Peer Support	4.08	0.12	4.14	0.12	-0.73	46	.467	.01	-.20	.08
Role	4.47	0.10	4.47	0.09	0.00	46	1.000	.00	-.11	.11
Change	3.55	0.13	3.70	0.14	-1.76	46	.086	.06	-.33	.03

a - based on 1000 bootstrap samples unless otherwise noted

Table 69

Difference in Work-related Stress for Participants Aware of Intervention Between T1 and T2 (n=89, T1-T2-T3 sample)

Variable	T1		T2		<i>t</i>	<i>df</i>	ρ	η^2	95% CI ^a	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					Lower	Upper
Demands	4.07	0.69	4.09	0.66	-0.34	88	.734	.00	-.135	.095
Control	2.95	1.02	3.08	1.01	-1.42	88	.158	.02	-.310	.051
Manager Support	4.04	0.92	4.00	0.93	0.52	88	.607	.00	-.101	.172
Peer Support	4.12	0.74	4.21	0.74	-1.32	88	.191	.02	-.219	.044
Role	4.54	0.63	4.54	0.61	0.07	88	.946	.00	-.105	.112
Change	3.48	0.94	3.54	0.92	-0.82	88	.415	.01	-.205	.085

Table 70

Difference in Work-related Stress for Participants Aware of Intervention Between T2 and T3 (n=80, T2-T3 sample)

Variable	T2		T3		<i>t</i>	<i>df</i>	ρ	η^2	95% CI ^a	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					Lower	Upper
Demands	4.09	0.66	4.09	0.68	2.24	32	.032	.05	.025	.536
Control	3.08	1.01	3.08	1.11	1.68	32	.102	.03	-.051	.536
Manager Support	4.00	0.93	3.89	0.96	1.21	32	.235	.02	-.128	.504
Peer Support	4.21	0.74	4.13	0.77	1.56	32	.129	.03	-.049	.367
Role	4.54	0.61	4.46	0.60	1.43	32	.161	.02	-.081	.464
Change	3.54	0.92	3.48	0.96	0.71	32	.485	.01	-.209	.432

a - based on 1000 bootstrap samples unless otherwise noted

Table 71

Difference in Work-related Stress for Participants Aware of Intervention Between T2 and T3 (n=80, T2-T3 sample)

Variable	T1		T2		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.95	0.56	3.67	0.75	0.09	88	.926	.00	-.113	.125
Control	2.71	1.02	2.47	1.09	0.00	88	1.000	.00	-.163	.163
Manager Support	3.56	0.98	3.37	0.89	1.51	88	.135	.07	-.036	.265
Peer Support	3.92	0.75	3.77	0.86	1.22	88	.225	.04	-.051	.214
Role	4.13	0.85	3.94	0.84	1.58	88	.117	.07	-.019	.169
Change	3.01	0.90	2.90	0.91	0.77	88	.442	.02	-.088	.201

Table 72

Difference in Work-related Stress for Participants Unaware of Intervention Between T2 and T3 (n=33, T2-T3 sample)

Variable	T2		T3		t	df	ρ	η^2	95% CI ^a	
	M	SD	M	SD					Lower	Upper
Demands	3.67	0.75	3.95	0.60	-2.12	32	.042	.12	-.56	-.01
Control	2.47	1.09	2.55	1.12	-0.59	32	.559	.01	-.36	.20
Manager Support	3.37	0.89	3.35	0.91	0.19	32	.848	.00	-.22	.26
Peer Support	3.77	0.86	3.70	0.92	0.53	32	.599	.01	-.18	.31
Role	3.94	0.84	4.02	0.82	-0.65	32	.519	.01	-.33	.17
Change	2.90	0.91	2.79	0.86	1.25	32	.221	.05	-.07	.29

a - based on 1000 bootstrap samples unless otherwise noted

Appendix 19 – Additional Statistical Test Results for Hypothesis 2 and 2a

Table 73

Difference in Psychological Wellbeing for Intervention Group and Control Group Participants Between T1 and T2 (T1-T2-T3 sample)

Variable	N	T1		T2		t	df	p	η^2	95% CI ^a	
		M	SD	M	SD					Lower	Upper
Intervention Group Psychological Wellbeing	49	3.65	3.88	2.86	3.72	1.66	48	.103	.05	-.17	1.76
Control Group Psychological Wellbeing	62	2.37	3.65	2.53	3.62	-0.40	61	.692	.00	-.97	.65

Table 74

Difference in Psychological Wellbeing for Intervention Group and Control Group Participants Between T2 and T3 (T1-T2-T3 sample)

Variable	N	T2		T3		t	df	p	η^2	95% CI ^a	
		M	SD	M	SD					Lower	Upper
Intervention Group Psychological Wellbeing	49	2.86	3.72	3.78	4.01	-1.74	48	.088	.06	-1.94	.10
Control Group Psychological Wellbeing	62	2.53	3.62	3.10	4.08	-1.40	61	.165	.03	-1.41	.18

a - based on 1000 bootstrap samples unless otherwise noted

Table 75

Difference in Psychological Wellbeing for Intervention Group and Control Group Participants Between T1 and T2 (T1-T2 sample)

Variable	N	T1		T2		t	df	p	η^2	95% CI ^a	
		M	SD	M	SD					Lower	Upper
Intervention Group Psychological Wellbeing	74	3.30	3.79	2.65	3.57	1.96	73	.054	.05	-.01	1.31
Control Group Psychological Wellbeing	86	2.83	3.78	2.98	3.98	-0.43	85	.665	.00	-.84	.54

Table 76

Difference in Psychological Wellbeing for Intervention Group and Control Group Participants Between T2 and T3 (T2-T3 sample)

Variable	N	T2		T3		t	df	p	η^2	95% CI ^a	
		M	SD	M	SD					Lower	Upper
Intervention Group Psychological Wellbeing	80	2.54	3.60	3.55	4.07	-2.46	79	.016	.07	-1.83	-.19
Control Group Psychological Wellbeing	83	2.35	3.49	2.83	3.88	-1.42	82	.159	.02	-1.16	.19

a - based on 1000 bootstrap samples unless otherwise noted

Table 77

Difference in Psychological Wellbeing and Non-work Stressors Between Intervention and Control Group Participants (T1, T2 and T3 samples)

Variable	Intervention Group				Control Group				ρ	η^2	95% CI ^a	
	M	SD	N		M	SD	N				Lower	Upper
T1												
Psychological Wellbeing	3.32	3.87	119		2.70	3.60	138	1.34	.182	.01	-.27	1.55
Non-work Stressors	0.68	0.88	119		0.56	0.94	138	1.07	.285	.00	-.10	.35
T2												
Psychological Wellbeing	2.72	3.72	121		2.85	3.84	112	-0.26	.795	.00	-1.11	.88
Non-work Stressors	0.64	1.00	121		0.77	1.09	112	-0.90	.369	.00	-.39	.13
T3												
Psychological Wellbeing	3.64	4.04	108		2.95	3.98	116	1.29	.200	.01	-.40	1.71
Non-work Stressors	0.69	0.96	108		0.67	1.02	116	0.13	.896	.00	-.23	.27

a - based on 1000 bootstrap samples unless otherwise noted

Table 78

Difference in Psychological Wellbeing for Intervention Group and Control Group Participants Working in the Contact Centre and Collections Between T1 and T2 (T1-T2-T3 sample)

Variable	N	T1		T2		t	df	ρ	η^2	95% CI ^a	
		M	SD	M	SD					Lower	Upper
Intervention - Contact Centre Psychological Wellbeing	14	3.71	3.65	3.79	4.69	-0.08	13	.939	.00	-2.05	1.91
Control - Contact Centre Psychological Wellbeing	35	3.63	4.02	2.49	3.26	-1.69	18	.108	.08	-3.42	.37
Intervention - Collections Psychological Wellbeing	19	1.89	3.25	3.42	4.27	2.05	34	.048	.19	.01	2.28
Control - Collections Psychological Wellbeing	43	2.58	3.82	2.14	3.28	1.10	42	.279	.03	-.37	1.25

Table 79

Difference in Psychological Wellbeing for Intervention Group and Control Group Participants Working in the Contact Centre and Collections Between T2 and T3 (T1-T2-T3 sample)

Variable	N	T2		T3		t	df	p	η^2	95% CI ^a	
		M	SD	M	SD					Lower	Upper
Intervention - Contact Centre Psychological Wellbeing	14	3.79	4.69	3.79	4.59	0.00	13	1.000	.00	-1.60	1.58
Control - Contact Centre Psychological Wellbeing	19	3.42	4.27	3.42	4.41	0.00	18	1.000	.00	-2.73	.08
Intervention - Collections Psychological Wellbeing	35	2.49	3.26	3.77	3.82	-2.01	34	.052	.11	-.90	.94
Control - Collections Psychological Wellbeing	43	2.14	3.28	2.95	3.96	-1.55	42	.129	.05	-1.83	.23

a - based on 1000 bootstrap samples unless otherwise noted

Table 80

Difference in Psychological Wellbeing for Intervention Group and Control Group Participants Working in the Contact Centre and Collections Between T1 and T2 (T1-T2 sample)

Variable	N	T1		T2		t	df	p	η^2	95% CI ^a	
		M	SD	M	SD					Lower	Upper
Intervention - Contact Centre Psychological Wellbeing	27	3.26	3.73	2.93	4.02	0.66	26	.516	.02	-.67	1.28
Control - Contact Centre Psychological Wellbeing	47	3.32	3.86	2.49	3.33	-1.66	34	.106	.06	-2.54	.29
Intervention - Collections Psychological Wellbeing	35	2.69	3.55	3.77	4.37	1.91	46	.063	.10	-.01	1.63
Control - Collections Psychological Wellbeing	51	2.92	3.97	2.43	3.63	1.38	50	.174	.04	-.31	1.25

Table 81
Difference in Psychological Wellbeing for Intervention Group and Control Group Participants Working in the Contact Centre and Collections Between T2 and T3 (T2-T3 sample)

Variable	N	T2		T3		t	df	p	η ²	95% CI ^a	
		M	SD	M	SD					Lower	Upper
Intervention - Contact Centre Psychological Wellbeing	36	2.75	4.00	3.78	4.53	-1.91	35	.064	.09	-2.15	.01
Control - Contact Centre Psychological Wellbeing	36	2.67	3.80	2.92	3.97	-0.56	35	.582	.01	-1.08	.58
Intervention - Collections Psychological Wellbeing	44	2.36	3.28	3.36	3.69	-1.64	43	.108	.06	-2.20	.06
Control - Collections Psychological Wellbeing	47	2.11	3.26	2.77	3.86	-1.34	46	.186	.04	-1.59	.28

a - based on 1000 bootstrap samples unless otherwise noted

Table 82

Difference in Psychological Wellbeing and Non-work Stressors Between Participants Working in the Contact Centre and Collections (T1, T2 and T3 samples)

Variable	Contact Centre			Collections			<i>t</i>	<i>df</i>	ρ	η^2	95% CI ^a	
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>					Lower	Upper
T1												
Psychological Wellbeing	2.88	3.61	124	3.08	3.86	133	-0.44	255	.663	.00	-1.03	.63
Non-work Stressors	0.65	0.93	124	0.58	0.91	133	0.65	255	.517	.00	-.14	.27
T2												
Psychological Wellbeing	3.16	4.10	117	2.40	3.39	116	1.56	224	.121	.01	-.30	1.83
Non-work Stressors	0.81	1.13	117	0.59	0.94	116	1.59	224	.112	.01	-.06	.52
T3												
Psychological Wellbeing	3.52	4.26	108	3.11	3.78	116	0.76	222	.450	.00	-.79	1.61
Non-work Stressors	0.69	0.97	108	0.67	1.00	116	0.10	222	.923	.00	-.26	.30

a - based on 1000 bootstrap samples unless otherwise noted

Table 83

Difference in Psychological Wellbeing and Non-work Stressors Between Participants in the Intervention Group and Control Group Working in the Contact Centre and Collections (T1, T2 and T3 samples)

Variable	Intervention Group			Control Group			<i>t</i>	<i>df</i>	<i>p</i>	η^2	95% CI ^a	
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>					Lower	Upper
Contact Centre												
T1												
Psychological Wellbeing	3.56	3.99	54	2.36	3.21	70	1.80	100	.075	.03	-.15	2.52
Non-work Stressors	0.78	0.88	54	0.56	0.96	70	1.32	122	.191	.01	-.11	.55
T2												
Psychological Wellbeing	3.03	4.14	61	3.30	4.09	56	-0.36	115	.723	.00	-1.72	1.24
Non-work Stressors	0.75	1.11	61	0.88	1.16	56	-0.58	115	.565	.00	-.51	.28
T3												
Psychological Wellbeing	3.98	4.43	57	3.00	4.05	51	1.20	106	.231	.01	-.61	2.50
Non-work Stressors	0.77	0.98	57	0.59	0.96	51	0.98	106	.330	.01	-.19	.55
Collections												
T1												
Psychological Wellbeing	3.12	3.79	65	3.04	3.96	68	0.12	131	.907	.00	-1.21	1.43
Non-work Stressors	0.60	0.88	65	0.56	0.94	68	0.26	131	.795	.00	-.26	.33
T2												
Psychological Wellbeing	2.40	3.25	60	2.39	3.56	56	0.01	114	.991	.00	-1.34	1.15
Non-work Stressors	0.53	0.87	60	0.66	1.01	56	-0.73	114	.469	.00	-.48	.20
T3												
Psychological Wellbeing	3.31	3.63	58	2.91	3.94	58	0.56	114	.574	.00	-.95	1.58
Non-work Stressors	0.60	0.94	58	0.74	1.07	58	-0.74	114	.461	.00	-.53	.22

a - based on 1000 bootstrap samples unless otherwise noted

Table 84

Difference in Psychological Wellbeing and Non-work Stressors Between Participants Working in the Contact Centre and Collections in the Intervention Group and Control Group (T1, T2 and T3 samples)

Variable	Contact Centre			Collections			η^2	95% CI ^a	
	M	SD	N	M	SD	N		Lower	Upper
Intervention Group									
T1									
Psychological Wellbeing	3.56	3.99	54	3.12	3.79	65	.00	-.99	1.81
Non-work Stressors	0.78	0.88	54	0.60	0.88	65	.01	-.13	.49
T2									
Psychological Wellbeing	3.03	4.14	61	2.40	3.25	60	.01	-.84	2.00
Non-work Stressors	0.75	1.11	61	0.53	0.87	60	.01	-.15	.58
T3									
Psychological Wellbeing	3.98	4.43	57	3.31	3.63	58	.01	-.85	2.19
Non-work Stressors	0.77	0.98	57	0.60	0.94	58	.01	-.18	.49
Control Group									
T1									
Psychological Wellbeing	2.36	3.21	70	3.04	3.96	68	.01	-1.78	.43
Non-work Stressors	0.56	0.96	70	0.56	0.94	68	.00	-.28	.27
T2									
Psychological Wellbeing	3.30	4.09	56	2.39	3.56	56	.01	-.67	2.53
Non-work Stressors	0.88	1.16	56	0.66	1.01	56	.01	-.16	.67
T3									
Psychological Wellbeing	3.00	4.05	51	2.91	3.94	58	.00	-1.46	1.62
Non-work Stressors	0.59	0.96	51	0.74	1.07	58	.01	-.53	.21

a - based on 1000 bootstrap samples unless otherwise noted

Appendix 20 – Additional Statistical Test Results for Hypothesis 4

Table 85

Means, Standard Deviations and Intercorrelations for Gender and Work Stressor Predictor Variables (n=257, T2 sample)

Variable	M	SD	1	2	3
Psychological Wellbeing	2.89	3.80	.02	-.52***	-.39***
Predictor variable					
1. Gender	1.32	0.47	-	-.08	-.08
2. Demands	3.95	0.73		-	.42***
3. Control	2.64	1.07			-

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 86

Hierarchical Regression Analysis Summary for Gender and Work Stressors Predicting Psychological Wellbeing

Step and Predictor Variable	B	SE B	β	95% CI ^a		R^2	ΔR^2
				Lower	Upper		
Step 1: Gender	0.17	0.51	.02	-.84	1.17	.00	
Step 2: Gender	-0.26	0.43	-.03	-1.10	.59	.31***	.31
Demands	-2.26	0.30	-.43***	-2.85	-1.66		
Control	-0.76	0.20	-.21***	-1.16	-.36		

* $p < .05$. ** $p < .01$. *** $p < .001$.

a - based on 1000 bootstrap samples unless otherwise noted

Table 87

Means, Standard Deviations and Intercorrelations for Working Hours and Work Stressor Predictor Variables (n=257, T2 sample)

Variable	M	SD	1	2	3
Psychological Wellbeing	2.89	3.80	-.03	-.52***	-.40***
Predictor variable					
1. Working Hours	1.31	0.46	-	.04	.02
2. Demands	3.95	0.73		-	.42***
3. Control	2.64	1.07			-

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 88

Hierarchical Regression Analysis Summary for Working Hours and Work Stressors Predicting Psychological Wellbeing

Step and Predictor Variable	B	SE B	β	95% CI ^a		R^2	ΔR^2
				Lower	Upper		
Step 1: Working Hours	-0.29	0.51	-.04	-1.30	.72	.00	
Step 2: Working Hours	-0.13	0.43	-.02	-.98	.71	.31***	.31
Demands	-2.25	0.30	-.42***	-2.84	-1.65		
Control	-0.76	0.20	-.21***	-1.16	-.35		

* $p < .05$. ** $p < .01$. *** $p < .001$.

a - based on 1000 bootstrap samples unless otherwise noted

Table 89

Means, Standard Deviations and Intercorrelations for Age and Work Stressor Predictor Variables (n=249, T2 sample)

Variable	M	SD	1	2	3
Psychological wellbeing	2.81	3.77	-.23***	-.50***	-.39***
Predictor variable					
1. Age	36.81	11.37	-	.09	.26***
2. Demands	3.97	0.72		-	.41***
3. Control	2.67	1.07			-

*p < .05, **p < .01, ***p < .001.

Table 90

Hierarchical Regression Analysis Summary for Age and Work Stressors Predicting Psychological Wellbeing

Step and Predictor Variable	B	SE B	β	95% CI ^a		R ²	ΔR ²
				Lower	Upper		
Step 1:						.06	
Age	-0.08	0.02	-.23	-.12	.04		
Step 2:						.32***	.26
Age	-0.05	0.02	-.15	-.09	.01		
Demands	-2.17	0.30	-.41***	-2.77	-1.57		
Control	-0.65	0.21	-.18***	-1.07	-.23		

*p < .05, **p < .01, ***p < .001.

a - based on 1000 bootstrap samples unless otherwise noted

Table 91

Means, Standard Deviations and Intercorrelations for Job Type and Work Stressor Predictor Variables (n=257, T2 sample)

Variable	M	SD	1	2	3
Psychological Wellbeing	2.89	3.80	-.09	-.52***	-.39***
Predictor variable					
1. Job Type	1.22	0.41	-	-.02	.40***
2. Demands	3.95	0.73		-	.42***
3. Control	2.64	1.07			-

*p < .05. **p < .01. ***p < .001.

Table 92

Hierarchical Regression Analysis Summary for Job Type and Work Stressors Predicting Psychological Wellbeing

Step and Predictor Variable	B	SE B	β	95% CI ^a		R ²	ΔR ²
				Lower	Upper		
Step 1: Job Type	-0.81	0.57	-.09	-1.94	.31	.01	
Step 2: Job Type	-0.16	0.54	-.02	-1.22	.90	.31***	.30
Demands	-2.27	0.31	-.43***	-2.88	-1.66		
Control	-0.72	0.23	-.20**	-1.18	-.27		

*p < .05. **p < .01. ***p < .001.

a - based on 1000 bootstrap samples unless otherwise noted

Table 93

Means, Standard Deviations and Intercorrelations for Job Type and Work Stressor Predictor Variables for Participants Working in Collections (n=119, T2 sample)

Variable	M	SD	1	2	3
Psychological wellbeing	2.34	3.36	-.18*	-.47***	-.39***
Predictor variable					
1. Job Type	1.15	0.36	-	-.09	.37***
2. Demands	4.08	0.61		-	.37***
3. Control	3.01	1.00			-

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 94

Hierarchical Regression Analysis Summary for Job Type and Work Stressors Predicting Psychological Wellbeing for Participants Working in Collections

Step and Predictor Variable	B	SE B	β	95% CI ^a		R^2	ΔR^2
				Lower	Upper		
Step 1: Job Type	-1.72	0.85	-.18	-3.40	.03	.03	
Step 2: Job Type	-1.45	0.81	-.15	-3.06	.16	.30***	.27
Demands	-2.29	0.48	-.42***	-3.24	-1.35		
Control	-0.61	0.31	-.18	-1.23	.01		

* $p < .05$, ** $p < .01$, *** $p < .001$.

a - based on 1000 bootstrap samples unless otherwise noted

Table 95

Means, Standard Deviations and Intercorrelations for Job Type and Work Stressor Predictor Variables for Participants Working in the Contact Centre (n=138, T2 sample)

Variable	M	SD	1	2	3
Psychological wellbeing	3.36	4.09	-.07	-.53***	-.37***
Predictor variable					
1. Job Type	1.28	0.45	-	.05	.56***
2. Demands	3.84	0.80		-	.42***
3. Control	2.32	1.03			-

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 96

Hierarchical Regression Analysis Summary for Job Type and Work Stressors Predicting Psychological Wellbeing for Participants Working in the Contact Centre

Step and Predictor Variable	B	SE B	β	Lower	Upper	R ²	ΔR^2
Step 1: Job Type	-0.64	0.78	-.07	-2.18	.91	.00	
Step 2: Job Type Demands	0.71 -2.27	0.81 0.42	.08 -.44***	-.90 -3.10	2.31 -1.44	.31***	.31
Control	-0.89	0.39	-.22***	-1.66	-.12		

* $p < .05$, ** $p < .01$, *** $p < .001$.

a - based on 1000 bootstrap samples unless otherwise noted

Appendix 21 – ServiceZone Leadership Team Presentation (September 2016)

Implementing an Organisational Intervention for Work-related stress

Key Findings

1. Non-work stressors are three times more powerful than work stressors

- Non-work stressors explain 45% negative variance in psychological wellbeing
- Job demands-control work stressors explain 16% negative variance in psychological wellbeing

2. Implementing the Stress Risk Assessment did not result in a significant reduction in exposure to work stressors or improvement in psychological wellbeing

- High staff turnover and August 2014 adverse weather event thought to have impacted on implementation
- Focus group findings indicate CRMs valued participation and TMs gained additional insight
- Exposure to demand and control work stressors was higher in the Contact Centre than Collections, but there was no significant difference in psychological wellbeing.

3. Manager Support had a protective influence on exposure to work stressors and psychological wellbeing

- Manager Support explains 11% negative variance in job demand
- Manager Support explains 15% positive variance in job control
- Manager Support explains 48% positive variance in peer support
- Manager Support explains 43% positive variance in role clarity
- Manager Support explains 48% positive variance in coping with change

4. Team Managers were a valuable source of work support in the Contact Centre, and personal support in the Contact Centre and Collections

5. Manager knowledge and availability are crucial components of provision of support.

6. Contact centre working conditions inhibited the formation and maintenance of peer social support networks

Recommendations

Manager Support

- Ensure Team Manager recruitment processes include selection criteria designed to identify manager's ability to provide social support
- Provide development programmes to develop social support skills in current Team Managers where additional capability requirement is identified
- Provide support programmes for managers to cope with demand of providing pastoral support to employees coping with non-work stressors

Peer Support

- Provide opportunities for face-to-face contact to help new starters initiate team friendships
- Provide opportunities for collaborative working on common projects
- Consider provision of online asynchronous communities to facilitate CRM communication on work and non-work matters

Non-work stressors

- Review employee wellbeing programmes to prioritise support for employees coping with non-work stressors

Work stressors

- Continue to review impact of high-demands/low-control as aspects of the call centre working environment, particularly in the Contact Centre

Appendix 22 – Sample Stress Risk Assessment Documentation

Header information removed

Action Plan Summary		By who?	By when?
1	REPORT - NEW ADDRESS TORE LEADERSHIP - COORDINATE WITH ADDITIONAL LEADERSHIP <i>Buzz's</i>	BUZZ	W/END
2	REPORT - COORDINATE LEADERSHIP TO ENSURE LEADER CLASS COORDINATE PROGRESS (ACHIEVE + COMMUNICATION)	LEACH/TIM CLIN	W/END
3	SUMMARY - BETTER COMMUNICATION THREE FLOOR PLANS - ADDITIONAL FLOOR NOW INTRODUCED	ALICE	W/END
4	MINIMUM 1000 - 1000 - 1000	ALICE	W/END
5	CHANGE - 1000, 1000, 1000	ALICE	W/END
6	EQUIPMENT DELIVERED AND DISTRIBUTED - 1000, 1000, 1000	ALICE	W/END
7	REPORT - 1000, 1000, 1000	ALICE	W/END
8	REPORT - 1000, 1000, 1000	ALICE	W/END
9	COVER IN PROTECTIONS - 1000, 1000, 1000	ALICE	W/END
10	COVER IN MAY - 1000, 1000, 1000	ALICE	W/END

This plan should be regularly reviewed with the team

When?	11/2/14	11/11/14	11/11/14	11/11/14	11/11/14
By who?	X	22/05/14 Escreen	13/05/14 Escreen	X	14/8/14 Escreen

433 sessions twice weekly
from June 14 - November 12, 1971 with Norida Amreen

Support

Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues ✗
- Employees unaware of available support ✓
- Lack of communication & consultation ✓
- Failure to celebrate success ✗
- A culture that considers stress a sign of weakness ✗
- Expectation to work long hours or take work home ✗
- Other 'support' issues...

Have any other 'support' issues been identified in team meetings, 1-2-1's, staff survey results etc.?

* Support is there but different individuals i.e. coach-managers support in different ways with different interpersonal skills "not all singing from same hymn sheet"

What measures are already in place to help address these issues?

- * Email HR or Speak with Senior Managers
- * 1-2-1's & Coaching Sessions
- * Communications through online Portal-CCB

How significant are 'support' issues?

L M **H**

Local Action Plan

What more can be done at a local level?

What issues need escalating?

* More Communication on how to escalate ongoing concerns.

* Any new processes to be rolled out, one to one through coaching sessions rather than given a document on CCB in the hope you have time to read.

* ~~Coaching issues~~ ~~Call with some marked how~~ can be brought to another individual to CCB at as a 3rd opinion & communicate to both CRM & other coaches on how this call should have been scored.

Support Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues ✓ L
- Employees unaware of available support
- Lack of communication & consultation ✓ M
- Failure to celebrate success
- A culture that considers stress a sign of weakness ✓ H
- Expectation to work long hours or take work home
- Other 'support' issues...

HTA

Have any other 'support' issues been identified in team meetings, 1-2-1's, staff survey results etc.?

What measures are already in place to help address these issues?

OC HEALTH

How significant are
'support' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

MORE COMMUNICATION AT FLOOR LEVEL.
LOWER MANAGEMENT TO BE ABLE TO
MAKE DECISIONS.

Relationships

Employees are not subject to unreasonable behaviours

What has significant potential to cause stress?

- Poor relationships with others
- Complaints
- Combative or confrontational communication styles
- Bullying, racial or sexual harassment
- Other 'relationship' issues...

Have any other 'relationship' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

escalation process to superiors

How significant are
'relationship' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

~~Make sure team members can~~
~~communicate properly~~
~~possibly a workshop~~
~~training course to ensure~~

Control Employees have a say in how they do their work

What has significant potential to cause stress?

- Balancing demands of work and life outside work
- Rigid work patterns ✓
- Lack of control over workflow
- Correct level of training for the job
- Lack of development opportunities
- Over promotion
- Conflicting work demands
- Other 'control' issues...

work can get
monotonous taking the call
calls for 8 hours

Have any other 'control' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

→ mixed duties + responsibilities

How significant are
'control' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

→ open these up to all calls

Control

Employees have a say in how they do their work

What has significant potential to cause stress?

- Balancing demands of work and life outside work
- Rigid work patterns ✓ H
- Lack of control over workflow ✓ H
- Correct level of training for the job
- Lack of development opportunities ✓ H
- Over promotion
- Conflicting work demands
- Other 'control' issues...

Have any other 'control' issues been identified in team meetings, 1-2-1's, staff survey results etc?

AHT
WRAP
HOMESERVE.

What measures are already in place to help address these issues?

Working Group

*How significant are
'control' issues?*

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

less management.

Change Employees are engaged when the organisation undergoes change

What has significant potential to cause stress?

- Poor communication and uncertainty ✓
- Fears about job security ✓
- Not enough time allowed to implement change ✓
- Inexperience/fear of new technology ✓
- Lack of skills for new tasks ✗
- Not enough resource allocated for change process ✓
- Dysfunctional teams ✗
- Other 'change' issues...

Have any other 'change' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

- * Job Security issue eventually covered in meeting with team leaders
- * Everything is communicated on CCB (not perhaps best method)

How significant are 'change' issues?

L M **H**

Local Action Plan

What more can be done at a local level?

What issues need escalating?

- * To communicate/deliver any change in meetings or in coaching rather than on CCB
- * Training sessions to be given when any new system comes into place.
- * To realise people learn at different pace
- *

PROBATIONARY

Role

Employees understand their role and responsibilities

What has significant potential to cause stress?

- Lack of clarity of job role
- Confusion over others job roles
- Conflicting demands ✓
- Other 'role' issues...

Have any other 'role' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

AHT WITH QUALITY

- COACHING.
- UPDATES.
- MTD REPORTS.

How significant are
'role' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

Demands Employees can cope with the demands of their jobs

What has significant potential to cause stress?

- Too little time for tasks ✓
- Inadequate staffing ✗
- Boring or repetitive work ✗
- Too little to do ✗
- Inadequate resources ✓
- Ineffective line management ✗
- 3rd party deadlines ✗
- Targets ✓
- Excessive workloads ✗
- Excessive pressure ✗
- Working environment ✗
- Other 'demand' issues...

Have any other 'demand' issues been identified in team meetings, 1-2-1's, staff survey results etc?

- * Demand for business need to roll out Training + upskilling in line with business not individual
- * Lack of GST Security when new groups do training

What measures are already in place to help address these issues?

- * Out of hours floor support now available

How significant are 'demand' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

- * Communication on how we there to help (Floor care) out of hours
- * Ask individuals whether they feel ready to upskill
- * For LRM's to know that if scores drop for example 1 month that it's not the end of the world & objectives wouldn't be set until targets consistently not met

Support

Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues
- Employees unaware of available support
- Lack of communication & consultation ✓
- Failure to celebrate success
- A culture that considers stress a sign of weakness
- Expectation to work long hours or take work home
- Other 'support' issues...

Aspects introduced without consulting CRM's

↓
> call closure.
> introduced but many CRM's did not know in initial roll-out; no formal introduction.

Have any other 'support' issues been identified in team meetings, 1-2-1's, staff survey results etc.?

CALL CLOSURE - SOUNDLY STATED.
CUSTOMERS NOT HAPPY.

What measures are already in place to help address these issues?

TM TO SPEAK TO TEAM LEADER.
UPDATE - SIM IMPROVEMENT - CALL CLOSURE TO REMAIN AS HELPER TO IDENTIFY - DISSENTIFIED CUSTOMERS.

How significant are 'support' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

REASONS BEHIND CALL CLOSURE
COMMUNICATED TO TEAM.

Control

Employees have a say in how they do their work

What has significant potential to cause stress?

- Balancing demands of work and life outside work ✓
- Rigid work patterns ✓
- Lack of control over workflow
- Correct level of training for the job
- Lack of development opportunities ✓
- Over promotion
- Conflicting work demands
- Other 'control' issues...

Have any other 'control' issues been identified in team meetings, 1-2-1's, staff survey results etc?

- Insufficient holidays / time off
- Change of circumstances, no chance changing hours
- never get time back if stuck on call - But yet if you're late you have to work it back

What measures are already in place to help address these issues?

UNION - NO AVAILABILITY - PURCHASE ADDITIONAL
REDUCTIONS IN HOURS - NO AVAILABILITY.

How significant are
'control' issues?

L **M** H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

PTW - DISCUSSION
ON GOING - SHIFT CHANGES

TEAM MET UP TO LOOK AT ANNUAL
LEAVE - NEW SYSTEM BEING TESTED
DECEMBER 2014. COMMUNICATED
TO TEAM.
FLEXIBLE WORKING - NEW POLICY
INTRODUCED

Demands Employees can cope with the demands of their jobs

What has significant potential to cause stress?

- Too little time for tasks ✓ - AHT
- Inadequate staffing
- Boring or repetitive work
- Too little to do
- Inadequate resources
- Ineffective line management
- 3rd party deadlines
- Targets ✓ - AHT
- Excessive workloads ✓
- Excessive pressure
- Working environment
- Other 'demand' issues...

Have any other 'demand' issues been identified in team meetings, 1-2-1's, staff survey results etc?

Floor Referrals, New Skill Sets before level one,
unhelpful ↗ ↗ measured

AHT - Talk line, wrap line

CALLING FLOOR - Q10 October Forwarding Your Referrals

What measures are already in place to help address these issues?

AHT Workshop

How significant are
'demand' issues?

L M **H**

Local Action Plan

What more can be done at a local level?

What issues need escalating?

AHT PILOT.

RESULTS OF PILOT SHOWED NO AHT
MEASURES HAVING NO IMPROVEMENT
ON QUALITY. IN SOME INSTANCES
QUALITY DROPPED. CRM'S ON PILOT
FELT THEY DIDN'T HAVE PROPER
MEASURES / TARGETS.

AHT TO REMAIN? 388 CALL CENTRE
PROGRESSION BEING RE-VAMPED

Role

Employees understand their role and responsibilities

What has significant potential to cause stress?

- Lack of clarity of job role
- Confusion over others job roles
- Conflicting demands ✓ NOT ENOUGH TIME TO KEEP UP WITH CHANGES.
- Other 'role' issues...

A.H.T - ALLOT

- CLEANER / TIDIER WORK AREAS - CLEAR OUT POLICY
- DSE CHAIRS ?

Have any other 'role' issues been identified in team meetings, 1-2-1's, staff survey results etc?

- DSE CHAIRS TAKING LONG PERIODS OF TIME TO ARRIVE - CHAIRS ARRIVED

What measures are already in place to help address these issues?

- AHT WORKSHOPS
- TEAM MANAGER / INDIVIDUAL CHASING UP.

How significant are 'role' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

- DSE ISSUES SHOULD BE ESCALATED TO HIGHER MANAGEMENT.

O. ACOSUE
R22716China
Horse
Pondmural
"pio
brother's feedbackO. ACOSUE
AWARDED
VERSIONS
INTRODUCED

TEAM BZZZ! INTRODUCED - WEEKLY TO
 ENGAGE TEAM - UP TO DATE WITH WHAT
 POINT OF @ 5000.

Change

Employees are engaged when the organisation undergoes change

What has significant potential to cause stress?

- Poor communication and uncertainty
- ✓ Fears about job security - BIG TURNOVER - 9000 JOBS
- ✓ Not enough time allowed to implement change
- Inexperience/fear of new technology
- Lack of skills for new tasks
- Not enough resource allocated for change process
- ✓ Dysfunctional teams
- Other 'change' issues...

• Holidays ✓ SUMMER

Have any other 'change' issues been identified in team meetings, 1-2-1's, staff survey results etc?

- MEETING INDIVIDUAL TARGETS / IF NOT MET PROCESS COULD LEAD TO DISMISSAL.
- NOT ENOUGH TIME TO GET TO KNOW TEAM.
- NOT ENOUGH TIME TO UPDATE ON CHANGES.
- NOT FAIR SYSTEM FOR HOLS ESPECIALLY CHRISTMAS/EID.

What measures are already in place to help address these issues?

- SUPPORT FROM MANAGER / COACHES.

How significant are 'change' issues?

L M **H**

Local Action Plan

What more can be done at a local level?

What issues need escalating?

- HOLIDAYS ISSUE NEEDS LOOKING INTO FURTHER TO MAKE FAIR PROCESS FOR EVERYONE. - ON GOING PILOT / TRIAL
- NEXT CYCLE - TARGETS INDIVIDUAL ACTION PLAN - GET TO AGREE + SUPPORT INDIVIDUAL - TARGETS ADDITIONAL COACHING.

Relationships

Employees are not subject to unreasonable behaviours

What has significant potential to cause stress?

- ✓ Poor relationships with others
- ✓ Complaints
- Combative or confrontational communication styles
- ✓ Bullying, racial or sexual harassment
- Other 'relationship' issues...

- 1-1 should be in a more private area.

- SICK ABSENCE

OK AT DESK

Have any other 'relationship' issues been identified in team meetings, 1-2-1's, staff survey results etc?

- TRY RESOLVING
- FOLLOW PROCESSES RELATING TO SPECIFIC ISSUE
- HOW WE ARE MADE TO FEEL DURING ABSENCE.

What measures are already in place to help address these issues?

- process in place for SPECIFIC ISSUES.

How significant are 'relationship' issues?

L M **H**

Local Action Plan

What more can be done at a local level?

What issues need escalating?

- ABSENCE - TM'S LOOKING AT ABSENCE REPORTING.

MAJORITY OF 1-1'S COMPLETED AT TM'S DESK. IF INDIVIDUAL REQUEST THEN COACHING BOOTH UTILISED

Header information removed

Action Plan Summary		By who?	By when?
1	management preparation before delivering important messages	All	immed
2	Ask staff if comfortable and need help etc before allocating new work especially if higher risk jobs	me	immed
3	Update Career Progression Scheme	All	3.4
4	Raise concerns and messages at T.M meeting	me	immed
5	Communicate to team on calls / collections situation	me	ongoing
6	manage issues closely during future change process	All	ongoing
7	Discuss staff who have done 'management work' at next team challenge meeting	me	2.4
8			
9			
10			

This plan should be regularly reviewed with the team

When?					
By who?					

Support

Employees receive adequate support and information from colleagues and managers

What has significant potential to cause stress?

- Lack of support from managers & colleagues
- Employees unaware of available support
- Lack of communication & consultation *
- Failure to celebrate success
- A culture that considers stress a sign of weakness
- Expectation to work long hours or take work home
- Other 'support' issues...

Have any other 'support' issues been identified in team meetings, 1-2-1's, staff survey results etc.?

- No comms on major issues or not soon enough.
- Different teams getting different messages.
- Ensure made aware of changes & performance scores quickly.
- Ask to do work not familiar with.

What measures are already in place to help address these issues?

- comms policy followed & changes made
- Performance scores & photos will be sent by email if a coaching session not possible within 2 weeks.

How significant are
'support' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

- Either managers agree on issues for feedback before it happens or do it together for all teams possibly?
- Ensure major changes are shared using both verbally and electronically
- Check perspective comparable with working practice when doing less familiar work and arrange training if not.

Control

Employees have a say in how they do their work

What has significant potential to cause stress?

- Balancing demands of work and life outside work
- Rigid work patterns
- Lack of control over workflow
- Correct level of training for the job *
- Lack of development opportunities *
- Over promotion
- Conflicting work demands
- Other 'control' issues...

Have any other 'control' issues been identified in team meetings, 1-2-1's, staff survey results etc?

- often asked to do jobs where don't have full understanding or training
- management often allocate work and 'promise' people can do the job.
- Progression / development not available or recognised - rewarded?

What measures are already in place to help address these issues?

How significant are
'control' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

- AS in support - check on existing practices and arrange training if necessary
- Update Career Progression Plan and look at introducing new work.

Demands Employees can cope with the demands of their jobs

What has significant potential to cause stress?

- Too little time for tasks
- ✓ • Inadequate staffing
- ✓ • Boring or repetitive work
- Too little to do
- Inadequate resources
- Ineffective line management
- 3rd party deadlines
- Targets
- ✓ • Excessive workloads
- Excessive pressure
- Working environment
- ✓ • Other 'demand' issues...

Have any other 'demand' issues been identified in team meetings, 1-2-1's, staff survey results etc?

Yes - a significant change in the 'nature' of the role.
Existing ~~in~~ more internal calls being taken & more
outbound proactive work being necessary
• Expectation of more phone help - the normal rather than backup.

What measures are already in place to help address these issues?

Recruitment
Phased despatch
Help understanding requirements
Understanding of transfer for change

How significant are
'demand' issues?

L M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

Managing work closely to avoid variation
Communicate what's being done to reduce call assistance
Enable request for phone help via the messenger and managed
better and by one manager not several.

Role

Employees understand their role and responsibilities

What has significant potential to cause stress?

- Lack of clarity of job role *
- Confusion over others job roles *
- Conflicting demands
- Other 'role' issues...

Have any other 'role' issues been identified in team meetings, 1-2-1's, staff survey results etc?

- Feeling that we always are required to help other teams/depts but nobody helps us when needed
- Not feel not consulted or our area not represented when things change
- Confusion over other managers job titles - causes confusion.

What measures are already in place to help address these issues?

- 'Team Lead' is there to use if required
- Future system changes will include representation from our area

How significant are
'role' issues?

L M H
=

Local Action Plan

What more can be done at a local level?

What issues need escalating?

- Communicate when help is received as it is not just provided by us
- Ensure our opinions and gather feedback during change processes
- Prioritise our Manager to take responsibility & prioritise.

Change

Employees are engaged when the organisation undergoes change

What has significant potential to cause stress?

- Poor communication and uncertainty *
- Fears about job security *
- Not enough time allowed to implement change
- Inexperience/fear of new technology
- Lack of skills for new tasks *
- Not enough resource allocated for change process
- Dysfunctional teams
- Other 'change' issues...

Have any other 'change' issues been identified in team meetings, 1-2-1's, staff survey results etc?

- concern over how the department will change & teams splitting
- feel that only team that 'works' - so want to stay together
- when asked to do 'management' jobs - no real preparation.
- feel worried when team managers called into meetings

What measures are already in place to help address these issues?

- our team is strongly recognised and appreciated owing to no issues and constant high attendance

How significant are
'change' issues?

L M H
=

Local Action Plan

What more can be done at a local level?

What issues need escalating?

- involve teams in change process where possible
- ensure communications issued/used and simultaneously to prevent issues etc
- ensure recognition / reward where individuals do 'management work'

Header information removed

Action Plan Summary		By who?	By when?
1	Positive Feedback	Me	New ORGANISATION.
2	New starters	T/M	As come out of training.
3	Desks	Team Managers	March/April.
4	Communication	Me	Monthly T/M meetings.
5	Training/upskilling	T/M	Monthly.
6	ALW - improve moral.	Me	Going to Meeting March.
7	Arrange Away Days	TM	April.
8			
9			
10			

This plan should be regularly reviewed with the team

When?					
By who?					

Control Employees have a say in how they do their work

What has significant potential to cause stress?

- Balancing demands of work and life outside work ✓
- Rigid work patterns ✓
- Lack of control over workflow ✓
- Correct level of training for the job ✓
- Lack of development opportunities ✓
- Over promotion
- Conflicting work demands ✓
- Other 'control' issues...

Changes

Have any other 'control' issues been identified in team meetings, 1-2-1's, staff survey results etc?

Calls vs queue work / Yorcove.

PMS

Targets

What measures are already in place to help address these issues?

workplan
second in line
Quarterly reviews
1-1's
training
planning
working practices

coaching
feedback

How significant are
'control' issues?

L (M) H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

Better communication as to what the priorities are - daily.

More team meetings to discuss/support
Regular w/practice reviews - discussion ideas
brought in from those that currently work
that work item.

More personal development discussions planning
for long term not just the short term.

Role * Employees understand their role and responsibilities

What has significant potential to cause stress?

- Lack of clarity of job role
- Confusion over others job roles
- Conflicting demands ✓ - already covered.
- Other 'role' issues... ✓

Queue - floor walker - already covered.

Have any other 'role' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

How significant are
'role' issues?

(L) M H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

Sometimes feel that we are working over our paid level -

Massage -

Role * Employees understand their role and responsibilities

What has significant potential to cause stress?

- Lack of clarity of job role
- Confusion over others job roles
- Conflicting demands ✓
- Other 'role' issues... ✓

- already covered.

Queue - floor walker - already covered.

Have any other 'role' issues been identified in team meetings, 1-2-1's, staff survey results etc?

What measures are already in place to help address these issues?

Local Action Plan

What more can be done at a local level?

What issues need escalating?

How significant are
'role' issues?

(L) M H

Sometimes feel that we are working over our paid level -

Massage -

Change Employees are engaged when the organisation undergoes change

What has significant potential to cause stress?

- Poor communication and uncertainty
- Fears about job security - Only when gossip is too loud and loud
- Not enough time allowed to implement change
- Inexperience/fear of new technology
- Lack of skills for new tasks - only when not trained/asked to pick
- Not enough resource allocated for change process
- Dysfunctional teams
- Other 'change' issues...

Have any other 'change' issues been identified in team meetings, 1-2-1's, staff survey results etc?

People slotted in - is not to be used

What measures are already in place to help address these issues?

As prev.

How significant are 'change' issues?

L (M) H

Local Action Plan

What more can be done at a local level?

What issues need escalating?

Butler Bar example - uncertainty on release & confusion. Plan in time to play on dummy system.
Reassurance
New incentives

Appendix 23 – HSE Indicator Tool 25-item Question Set

1. I am subject to personal harassment in the form of unkind words or behaviour. (Relationships)
2. I have unachievable deadlines. (Demands)
3. If work gets difficult, my colleagues will help me. (Peer Support)
4. I am given supportive feedback on the work I do. (Manager Support)
5. I have a say in my own work speed. (Control)
6. I am clear about what my duties and responsibilities are. (Role)
7. I have to neglect some tasks because I have too much to do. (Demands)
8. I am clear about the goals and objectives for my team. (Role)
9. I have a choice in deciding how I do my work (Control)
10. I understand how my work fits into the overall aim of XXX. (Role)
11. I am pressured to work long hours. (Demands)
12. I have a choice in deciding what I do at work. (Control)
13. I am subject to bullying at work. (Relationships)
14. I have unrealistic time pressures. (Demands)
15. I can rely on my line manager to help me out with a work problem. (Manager Support)
16. I get the help and support I need from colleagues. (Peer Support)
17. I have some say over the way I work. (Control)
18. I have sufficient opportunities to question managers about change at work. (Change)
19. I receive the respect at work I deserve from my colleagues. (Peer Support)
20. Staff are consulted about change at work. (Change)
21. I can talk to my line manager about something that has upset or annoyed me about work. (Manager Support)
22. My colleagues are willing to listen to my work-related problems. (Peer Support)
23. When changes are made at work, I am clear how they will work out in practice. (Change)
24. I am supported through emotionally demanding work e.g. angry or upset customer. (Manager Support)
25. My line manager encourages me at work. (Manager Support)

Appendix 24 – General Health Questionnaire 12-item Question Set

1. Have you recently been able to concentrate on whatever you're doing?
2. Have you recently lost much sleep over worry?
3. Have you recently felt you were playing a useful part in things?
4. Have you recently felt capable about making decisions about things?
5. Have you recently felt constantly under strain?
6. Have you recently felt you couldn't overcome your difficulties?
7. Have you recently been able to enjoy your normal day-to-day activities?
8. Have you recently been able to face up to your problems?
9. Have you recently been feeling unhappy and depressed?
10. Have you recently been losing confidence in yourself?
11. Have you recently been thinking of yourself as a worthless person?
12. Have you recently been feeling reasonably happy, all things considered?

Appendix 25 – Thematic Coding Frameworks

Table 97 – A Priori Thematic Coding Framework

1st level nodes	2nd level nodes
Emotion	Mixed
	Negative
	Neutral
	Positive
Demands	Staffing levels
	Task variety
	Too little to do
	Resources adequacy
	Line management efficacy
	3rd party deadlines
	Workload level
	Pressure level
	Working environment
	Adverse Weather
	Call Quality
	AHT
	Customer satisfied
Control	Work-life balance
	Work patterns
	Control over workflow
	Job training
	Development opportunities
	Conflicting work demands
Support	Manager support work
	Manager support personal
	Peer support
	Communication
	Celebration of success
	High workload culture
	Long hours culture
	Involvement & participation
	Call Scoring
	Peer isolation
Role	Job role clarity
	Conflicting demands

Table 97 (continued) – A Priori Thematic Coding Framework

1st level nodes	2nd level nodes
Relationships	Poor working relationships Complaints Confrontational behaviours Bullying or harassment
Change	Uncertainty Job security Timescales New technology New job skills Change management resources Change communication
Reward	Financial reward Social reward Intrinsic reward
Fairness	Financial inequality Management inequality
Values	Personal ethics Conflicting values
SRA Process	Awareness Process used Team involvement Time taken Action Review Great Place to Work Suggestions & Feedback

Table 98 - Final Thematic Coding Framework

1st level nodes	2nd level nodes	3rd level nodes
Emotion	Positive	
	Negative	
	Mixed	
	Neutral	
	Feeling stressed	
	Feeling tired	
	Feeling annoyed	
	Feeling unhappy	
	Emotional dissonance	
Demands	Staff turnover	
	Task variety	
	Too little to do	
	Resources adequacy	
	People resources	
	Workload planning	
	System resources	
	Line management efficacy	
	3rd party deadlines	
	Workload	
	Pressure	
	Working environment	
	Adverse Weather	
	Call Quality	
	AHT	
	Customer Voice	
	Team ServiceZone	
	Task nature	
	Targets	
Control	Work-life balance	
	Work patterns	
	Task discretion	
	Development opportunities	
	Quiet time	
	Holidays	
	Participation	Active Participation
		False Participation
		No Participation
		Buzz and Hubs
		Team Meetings
		1-2-1s
		Positive Impact
		Negative Impact
		Informed decisions

Table 98 (continued) - Final Thematic Coding Framework

1st level nodes	2nd level nodes	3rd level nodes
Support	Manager availability	
	Manager knowledge	
	Peer support	
	Peer isolation	
	Communication	
	Celebration of success	
	High workload culture	
	Long hours culture	
	Call Scoring	
	TM emotional support	
	TL-TM Relationship	
	Organisational support	
	Personal Support	
	Work Support	
		TMs
		Coaches
		Floorwalkers
Role	Job role clarity	
	Conflicting demands	
	Job skills	
	Part time & Out of Hours	
	Empowerment	
	Relationships	
	Working relationships	
	Complaints	
	Confrontational behaviours	
	Bullying or harassment	
	Morale	
Change	Uncertainty	
	Job security	
	Change timescales	
	New technology	
	New job skills	
	Change management resources	
	Change communication	
	Consultation	
	Dysfunctional teams	
Reward	Financial reward	
	Social reward	
	Intrinsic reward	
Fairness	Financial inequality	
	Management inequality	

Table 98 (continued) - Final Thematic Coding Framework

1st level Codes	2nd level codes	3rd level codes
Values	Personal ethics	
	Conflicting values	
	Memorable quotes	
SRA Evidence	Strong evidence	
	Moderate evidence	
	Weak evidence	
	No evidence	
	Issues identified	
	Current measures	
	Local action plan	
	Action Plan Summary	
	Plan review	
	Risk Rating	High
		Med
SRA Process		Low
		Unrated
	Awareness	
	Process used	
	Team involvement	
	Time taken	
	Action	
	Review	
	Great Place to Work	
	Suggestions & Feedback	
Training	Promoter	
	Neutral	
	Detracter	
	SRA intention	
	Positivity	

Table 98 (continued) - Final Thematic Coding Framework

1st level Codes	2nd level codes	3rd level codes
Action Research	Action	
	Research	
	T1	
	T2	
	T3	
	Post T3	
	Diagnose	
	Plan	
	Act	
	Fact find	
	Reflect	
	Organisational context	
	Significant problem	
	Felt need	
	Factors	
		Time conflict
		Business demands
		Attrition
		Manager Change
		Adverse Weather